MEDICINAL PLANTS OF INDIA AND PAKISTAN

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MEDICINAL PLANTS OF INDIA AND PAKISTAN

A Companion Volume

USEFUL PLANTS OF INDIA AND PAKISTAN

AUTHORITATIVE WORK ON TREES AND PLANTS OF INDUSTRIAL, ECONOMIC AND COMMERCIAL UTILITY

By J. F. DASTUR, F.N.I.

With 66 Illustrations

In this work, the author gives us a glimpse of the riches possessed by India and Pakistan in their vegetable population. A glance at Appendix I, where the plants are classified according to their uses, will show which plants produce the best timber, give the finest fibres, make the most efficient firewood and charcoal. We learn from which plants we can get useful dyes and tans, fats, oils, detergents, and waxes, perfumes, essential oils and cosmetics, resins, varnishes, paints, lacquers, dammars, gums, mucilages, glues, cements. We are told which plants make good wood pulp and paper, those useful for making beverages, matches, fertilizers; which can be used successfully to make pesticides, insect repellents and weedicides.

As far as possible, technical terms have been omitted. The local and common English names of each plant has been given; it is fully described and its distribution mentioned. Lastly, the uses of each plant are fully dealt with.

This is a book not only for the botanist, but also for the layman and the small industrialist interested in the potential wealth that lies all round him in the form of our plants and trees. It will awake the lay reader as well as the student of natural phenomena to new fields of potential interest.

MEDICINAL PLANTS OF INDIA AND PAKISTAN

A Concise Work Describing Plants Used for Drugs and Remedies According to Ayurvedic, Unani, Tibbi Systems and Mentioned in British and American Pharmacopoeias

By

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There has been a wonderful accumulation of claims regarding the efficacy of many plants for the cure of snake bite. The properties of some of these plants have been critically examined by Rev. Fr. Caius and Dr. K. S. Mhaskar; but these research workers have not been able to substantiate the claims. However the reputation of such plants as antidotes to snake bite is so great and widespread, especially in the region where these plants are commonly found, that it has been considered desirable to include them in this volume.

Many of our drug plants have other economic uses as well, and therefore they have already been described in *Useful Plants of India and Pakistan*. The present volume only covers the medicinal uses of these multi-purpose plants; for their description and distribution the reader may refer to the earlier publication.

My grateful thanks are due to Rev. Fr. Santapau of St. Xavier's College, Bombay, for permitting me the use of his valuable library, and for helping me with the nomenclature of many plants; my thanks are also due to the authorities of the Institute of Science, Bombay, for allowing me the use of its library.

J. F. DASTUR

INTRODUCTION

(to the Second Edition)

As the demand for this book is still very great and its first edition has been completely sold out, a second edition is being published.

The first edition has been revised and enlarged by adding particulars of a few more plants that are in common use for their medicinal properties and are readily available.

If the reader wishes for more detailed information about the use of plants described in this volume for specific diseases, or of how to make certain medicinal preparations, such as decoctions, infusions, powders etc., reference is suggested to the author's book "Everyone's Guide to Ayurvedic Medicine".

In the first edition reference has been made to plants used for the cure of snake-bite; but many of these plants have been clinically tested, and have failed to give positive results. No reference has therefore been made in this second edition to plants which have the reputation of being useful against snake-bite.

J. F. DASTUR

1. ABROMA AUGUSTA LINN. F. (*)

Family: *Sterculiaceae*

Local Names: tambol, ulatkambel.
English Name: Devil's Cotton.
Uses: The root and root-bark have a valuable action on the uterus. They are an uterine tonic and regulate the menstrual flow. A paste of the fresh root made with water and black pepper is given in one drachm doses. The root-bark is given in doses of 20-60 grains and its fresh juice in half drachm doses a day.

2. ABRUS PRECATORIUS LINN. (3)

Family: *Leguminosae*

Local Names: chanoti, gunchi.
English Names: Bead Tree, Crab's Eye, Indian or Wild Liquorice.
Uses: The leaves are demulcent and unguent; their juice is given for the cure of sore throat, dry cough and ardour urine; the juice is also a good blood purifier. A paste of the leaves made with some bland oil applied over swellings, rheumatism etc., brings great relief; the leaves dipped in hot mustard oil or honey are used for the same purpose; a poultice of the leaves is used for removing freckles.

A paste of the seeds and of the roots of *Plumbago rosea* or of *P. zeylanica* (chitraka) made with water is a stimulant dressing when applied over leucoderma patches.

The root, known as Indian Liquorice, acts as an emetic, antidote and demulcent; an extract of the root is administered for relief of obstinate coughs, sore throat and rheumatism.

The seeds are known as Jequitry; they contain abrin, and abric acid. They are used as a strong purgative and emetic, but only in small doses; in large doses they are more poisonous than strychnine; to prevent conception the seeds are eaten by wo-

* The number in brackets refers to the number of the plant described in *Useful Plants of India and Pakistan*, published by Messrs. D. B. Taraporevala Sons & Co. Private Ltd., Bombay.

men. One to three grains of the powdered seeds boiled with milk are a powerful tonic and have an aphrodisiacal action. A preserve of the decorticated powdered seeds is used as an anthelmintic.

A paste of the seeds is used as a rubefacient in sciatica, stiff shoulders, paralysis and other nervous diseases. It is also useful for skin diseases, ulcers, contusions and inflammations. For the cure of alopecia it is rubbed on the exposed skin of the scalp. A paste of the seeds made with water and salt applied on boils promotes suppuration. A three per cent infusion of the decorticated seeds is a useful lotion for eye diseases, such as granular eyelids, corneal opacity etc.

3. ABUTILON INDICUM G. DON.

Family: *Malvaceae*

Local Names: karandi, madmi, petari.

English Name: Indian Mallow.

Description: An erect, woody, grey, velvety, shrubby plant. Leaves cordate, long stalked, slightly lobed, entire or unequally toothed, clothed with closely felted white down. Flowers solitary, yellow, opening in the evening. Carpels 20, dry, separating from the central axis, forming a flat-topped fruit with radiating points, covered at first with thin tomentum and scattered tufts of stiff hairs, seeds without hairs.

Distribution: Common throughout India and Pakistan.

Uses: The leaves are useful as a demulcent; their decoction is given in bronchitis, catarrhal bilious diarrhoea, gonorrhoea, inflammation of the bladder, chest affections, urethritis and fevers. The decoction is used as an emollient fomentation on painful parts of the body; and as a mouth-wash for toothache and tender gums. A poultice of the leaves is applied on boils and ulcers.

The mucilaginous bark is diuretic.

The roots are diuretic; they are used as a pulmonary sedative; their infusion makes a cooling drink in fevers.

The seeds are given in doses of one or two drachms as a laxative in piles, as an expectorant and aphrodisiac. They are useful in gonorrhoea, gleet and chronic cystitis. To kill threadworms the rectum of the child is exposed to the smoke of burning powdered seeds.

4. ACACIA ARABICA WILD. (10)

Family: *Leguminosae*

Local Names: babul, kikar.

English Name: Babul Tree.

Uses: A paste of the tender tops made with water and sugar is given as a demulcent in coughs. An infusion of the tops is given as a douche in gonorrhoea and leucorrhoea.

The tender leaves are eaten as an astringent in diarrhoea and dysentery; an enema of their decoction is useful for these complaints. The decoction is a useful gargle for relaxed sore throat and spongy gums; it is also used for washing bleeding ulcers and wounds. A poultice of the leaves is used over sore eyes of children. An ointment made of the burnt leaves with cocoanut oil is an efficacious remedy for skin diseases.

The bark contains tannin and gallic acid; it is a powerful astringent and a good substitute for oak bark; its decoction is given in doses of 1 to 2 oz. in diarrhoea, dysentery and diabetes. It is used as a demulcent in prolapse of the anus; it is given as an injection in gonorrhoea, cycstitis, leucorrhoea, vaginal discharges, prolapse of the uterus, etc. A decoction or an infusion of the bark is an efficacious gargle in relaxed sore throat, spongy gums, aphthous condition of the mouth and mercurial salivation; it is a useful wash for ulcers and mucous diseases of the eyes and throat. The juice of the bark is applied as a styptic; it is particularly used for stopping bleeding from a circumcision wound.

The gum is an emollient and demulcent; it is particularly useful in diarrhoea, dysentery and diabetes; it also soothes the inflamed membranes of the pharynx, alimentary canal and genito-urinary organs; it is prescribed for cough and chest complaints. The gum is either used as a decoction, syrup or pastille. A confection of the gum is used as a tonic or as an aphrodisiac. As a mucilage the gum is commonly used along with other medicines. It is a useful styptic; it is particularly used for stopping bleeding from bites of leeches. Mixed with the white of an egg the gum is applied over burns and scalds.

The bark is astringent; it is given as a decoction or infusion

in diarrhoea, dysentery, leucorrhoeal discharges etc. The decoction or infusion is used as a collyrium in ophthalmia and as a wash for ulcers. The pods are expectorant. The powder of the pods or their juice is used as a styptic.

5. ACACIA CATECHU WILLD. (5)

Family: *Leguminosae*

Indian Names: kath, khadira, khair.

English Names: Catechu Tree, Cutch Tree.

Uses: The juice of the fresh bark is given with asafoetida in haemoptysis.

The extract of the wood is known as *kath*, catechu or cutch; it is an ideal substitute for the British Pharmacopeia catechu which is prepared from *Uncaria gambier;* kath is a very valuable astringent; it is generally used for disorders in which a mild, non-irritating and powerful astringent is required, such as chronic diarrhoea and dysentery, bleeding piles, uterine haemorrhage, leucorrhoea, gleet, etc.; the dose is about 5 to 20 grains. Catechu is very efficacious for mercurial salivation, bleeding or ulcerated or spongy gums, hypertrophy of the tonsils, enlarged uvula, aphthous ulceration of the mouth etc. It may be used as a lozenge made with the addition of gum arabic and sugar; the lozenge is allowed to dissolve slowly in the mouth. An infusion of catechu (5 to 10 parts in 1000 parts of water) is used as a douche in uterine haemorrhage, leucorrhoea and gonorrhoea; the infusion is also used for checking bleeding from the nose and for washing skin eruptions and sore nipples. A powder of catechu is used for plugging the cavity of an aching tooth to relieve pain. A tincture of catechu is particularly useful for bed sores and painful mammary glands.

A mixture of catechu and myrh, known as *kathbol*, is used as a tonic and as a galactagogue for nursing mothers.

Khersal or catechuic acid, found in small fragments in cavities of the wood, is a useful drug for chest diseases.

6. ACACIA CONCINNA D.C. (6)

Family: *Leguminosae*

Local Names: saptla, shikakai, vimla.

Uses: A chutney made of the tender leaves, salt, tamarind and chillies is given in bilious affections, such as jaundice. An infusion of the leaves is used in malarial fever; it checks flatulence and is a mild laxative.

A decoction of the pods checks biliousness; it is also an expectorant. The pods taken repeatedly in large doses act as an emetic and as a purgative. The decoction is a useful hair-wash; it promotes growth of hair, kills lice and removes dandruff. An ointment made of the pods is used in skin diseases.

7. ACALYPHA INDICA LINN.

Family: *Euphorbiaceae*

Local Names: khokali, vanchi kanto.

English Names: Indian Acalypha, Three Seeded Mercury.

Description: An erect annual herb, about 2 ft. high; branches numerous, long, angular, softly hairy. Leaves up to 3 in. long, ovate, thin, glabrous, margins toothed; leaf-stalk longer than the blade, slender. Flowers sessile, monoecious, in erect, long spikes; male flowers very small, clustered near the summit; female flowers scattered, each or a group of 3 to 5 with a large, leafy, truncate bract. Capsules small concealed by the enlarged bract, usually one-seeded; seeds minute, ovoid, pale brown.

Distribution: A common weed throughout India and Pakistan.

Uses: The plant contains the alkaloid acalyphine.

The plant is an expectorant, diuretic and laxative; it is a popular remedy in chronic bronchitis, asthma, pneumonia and rheumatism. As an emetic the herb is of special value in croup, as its action is safe, certain and speedy; for children the dose is a teaspoonful of the expressed juice; the dose may be increased to 4 teaspoonfuls according to age; in smaller doses it is used as an expectorant in bronchitis and asthma.

The fresh leaf juice is a valuable emetic for children in doses

of one teaspoonful; it is safe and speedy in its action; it also increases the secretion of the pulmonary organs. The juice of the leaves or their decoction with the addition of a little garlic is used as an anthelmintic. The decoction is a valuable laxative. A suppository of the fresh leaves introduced in the rectum of small children suffering from constipation produces free motions. A paste of the fresh leaves is a useful application for syphilitic ulcers, bed-sores and maggot-infested sores and wounds. A mixture of the fresh leaf juice and oil is applied in rheumatic arthritis.

The root in small doses is an expectorant and nauseant; in large doses it is an emetic.

8. ACHILLEA MILLEFOLIUM LINN.

Family: *Compositae*

Local Names: gandana, momadra, rojmari.

English Names: Bloodwort, Milfoil.

Description: Erect, pubescent herb, about 2 ft. high; stems leafy, grooved. Leaves alternate, oblong-lanceolate, 2-4 in. long, 3-lobed; lobes linear, acute; lower leaves stalked, upper sessile. Flower heads radiate, small, crowded in branched corymbs; bracts few, erect; receptacle flat, covered with thin, oblong scales; flowers white or pale pink; pappus absent; corolla of the central flowers 5-lobed. Fruit an achene, oblong, flattened, shining.

Distribution: Western Himalayas, 6,000-9,000 ft.

Uses: The herb is a bitter aromatic, tonic, astringent, stimulant and diaphoretic. It is prescribed for colds, obstructed perspiration, fevers, hysteria, flatulence, heartburn, colic, epilepsy, piles, amenorrhoea, kidney disorders, suppression of haemorrhages, profuse mucous discharges and nervous diseases. An ounce of its decoction is given every hour. A dessertspoonful of its fresh juice is given three times a day to aid digestion in gastric disorders. Its decoction or infusion is a useful mouth-wash, hair-wash and an astringent for bleeding piles, ulcers and sore nipples.

A hot infusion of the leaves is given in doses of one to six ounces as a bitter tonic. A strong decoction is used as an injec-

tion for bleeding piles, vaginal haemorrhages and nasal bleeding.

The flowers yield an essential oil; it is given in doses of 5 to 30 drops in disorders of the urinary system and of the female reproductive organs.

9. ACHYRANTHES ASPERA LINN. (13)

Family: *Amaranthaceae*

Local Names: apamarga, chirchira, latjira.

English Names: Prickly-chaff Flower, Rough-chaff Tree.

Uses: As a diuretic a decoction of the herb is given in one to two ounce doses three times a day; it is also a laxative, stomachic, depurative, pectoral and astringent; its juice is given in diarrhoea, dysentery, menorrhagia, piles, rheumatism, inflammation of internal organs, skin diseases etc.; the juice in large doses hastens labour pains or causes abortion. The ash of the weed contains a high proportion of potash and therefore the ash is an important constituent of alkaline medicines and caustic pastes; the ash is an antacid; with honey it is given in cough and asthma; an ointment made of the ash with orpiment is used for clearing warts and ulcers. A mixture of the ash and four times its weight of water is allowed to stand for 24 hours; the residue obtained by evaporating the supernatant liquid is the well known *aghada khara;* it is given in doses of one to two grains with honey for relieving colic, cough, asthma, etc.

The leaf juice is used for the same complaints as the juice of the whole plant. A paste of the fresh leaves is applied over insect bites; the paste with black pepper and garlic is a useful antiperiodic. The fresh leaf juice with a little opium is applied to primary syphilitic sores.

An infusion of the roots is a mild astringent; it is used for bowel complaints, night-blindness, skin diseases and puerperal, pulmonary, syphilitic and rheumatic affections in doses of one to four ounces. A paste of the roots is applied in ophthalmia and opacity of the cornea.

10. ACORUS CALAMUS LINN. (14)

Family: *Araceae*

Local Names: bacha, vacha.

English Name: Sweet Flag.

Uses: The rhizome is of great medicinal value; it contains an aromatic volatile oil and a bitter principle, acorin. The root-stock is an aromatic stimulant, bitter tonic, carminative, antispasmodic, emetic, nauseant, expectorant, emmenagogue, aphrodisiac, laxative and diuretic. Its infusion is given to children in diarrhoea, dysentery, bronchial and chest affections, epilepsy etc. As an emetic it is an excellent substitute for ipecacuanha; even a small dose of 30 grains produces emesis. As an expectorant it is a very useful remedy for asthma; 10 grains are given every two or three hours. In small doses it is used as a carminative, stomachic and stimulant; it is a popular household remedy for flatulence, colic, chronic diarrhoea and dysentery, loss of appetite, bronchial catarrh etc.; as a mild stimulant it is prescribed in fevers, ague and haemorrhage following abortion; it is also used in calculous affections; it is given as a hot infusion or decoction; the infusion is given in doses of two ounces twice or thrice a day; the decoction is made by boiling together two ounces of the rhizome, one drachm of coriander and half a drachm of black pepper in a pint of water till the liquid is reduced to 12 ounces; one ounce of the decoction is given three times a day to adults and one to three drachms with sugar two or three times a day to a child; a mixture of the rhizome, saffron and mare's milk is given to hasten labour; a decoction of the rhizome is used as a hip bath for the same purpose. As an anthelmintic the dose of the root is 20 to 60 grains. In croton poisoning the powder is given with water.

The burnt root mixed with some bland oil or a poultice of the root is applied over the abdomen in flatulent colic; the poultice is also usefully applied to paralysed limbs and rheumatic swellings. The pulverized root is dusted over foul and indolent ulcers.

11. ADANSONIA DIGITATA LINN. (15)

Family: *Bombacaceae*

Local Names: gorakh imli, gorakshi.

English Names: Baob Tree, Monkey-bread Tree.

Uses: The leaves are demulcent, febrifuge and astringent; the dried leaves are used both as a diaphoretic and prophylactic against fevers and as an emollient in dysentery and diarrhoea; an infusion of the leaves or flowers is given in respiratory and digestive disorders. A poultice of the young leaves is applied as a fomentation over rheumatic joints, inflammatory swellings and ulcers.

The bark contains mucilage and adansonin, a bitter principle; as a febrifuge and antiperiodic it is highly valued; one to three ounces of its decoction are given, especially for intermittent fevers.

The root also is used as a febrifuge.

The acidic pulp of the fruit is given in fevers as a diaphoretic; with figs it is prescribed in asthma; with buttermilk it acts as an astringent in diarrhoea and dysentery. The pulp is applied over skin diseases.

12. ADHATODA VASICA NEES. (17)

Family: *Acanthaceae*

Local Names: arusi, rusa, vasa, vasaka.

English Name: Malabar Nut Tree.

Uses: The leaves contain the alkaloid vascine; they are a powerful expectorant and antispasmodic; they are commonly used in chest diseases, especially phthisis; two to three drachms of the fresh leaf juice mixed with one drachm each of ginger juice and honey are usually prescribed for these diseases. A decoction of the leaves or their powder is also given, especially for chronic bronchitis and asthma; the decoction is given in doses of 180 grains with honey and long pepper; the dried leaves are given in doses of 30 grains. The leaf juice is given in diarrhoea and dysentery in doses of two to four drachms. The leaves are given as a febrifuge in malarial fevers. For relief

of asthma the dried leaves are smoked. A poultice of the leaves is applied over fresh wounds, rheumatic joints and inflammatory swellings. A warm decoction of the leaves is used for scabies and other skin diseases, neuralgic pains and bleeding from the nose.

The flowers and fruits are bitter, aromatic and antispasmodic.

The root is expectorant, antispasmodic, antiseptic, antiperiodic and anthelmintic. As an expectorant it replaces senega. It is given in malarial fevers, diseases of the respiratory system, diphtheria and gonorrhoea. The root and the bark have the same medicinal uses as the leaves. A decoction of the bark is given in one to two ounce doses and the powdered root-bark in 10 to 30 grain doses.

13. AEGLE MARMELOS CORR. (19)

Family: *Rutaceae*

Local Names: bael, bilva, siriphal.

English Names: Bael Tree, Bengal Quince.

Uses: The fresh leaf juice in doses of two to four drachms is given with honey as a mild laxative in fever, catarrh and asthma; mixed with black pepper the leaf juice is given in dropsy with constipation and in jaundice. A decoction of the leaves is a febrifuge and expectorant; it is particularly used for asthmatic complaints. A hot poultice of the leaves is applied to the eyes in ophthalmia, to the head in the delirium of fevers, to the chest in acute bronchitis and to inflamed parts of the body.

A decoction of the root-bark is used in intermittent fevers, melancholia and palpitation of the heart.

The fruit is of considerable medicinal value when it just begins to ripen. The ripe fruit is aromatic, astringent, cooling and laxative. The unripe or half-ripe fruit is astringent, stomachic, antiscorbutic and digestive. It is best given in sub-acute or chronic cases of diarrhoea and dysentery and in irritation of the alimentary canal; it is a useful adjunct in after treatment of bacillary dysentery. The ripe fruit is prescribed in intestinal disorders and certain forms of dyspepsia characterized by alternate constipation and diarrhoea. A sherbet of the ripe fruit is given for chronic constipation and dyspepsia.

An extract of the fresh half-ripe fruit is given in doses of half to one drachm repeated many times a day. An extract made from sun-dried slices of the unripe fruit is given in doses of one to two drachms. As a tonic the powder of the dried pulp is given in 12 to 15 grain doses; as an antiscorbutic and febrifuge in 16 to 20 grain doses; as a nauseant and antidysenteric in 20 grain to two drachm doses.

14. AGERETUM CONZYOIDES LINN.

Family: *Compositae*

Local Names: Ajganda, ghandhari sedardi, sahadevi.

English Names: Goat Weed, Floss Flower, White Weed.

Description: An annual herb, about 3 ft. high; stem erect, branched, hairy, columnar. Leaves stalked, 2-3 in. long, broadly ovate, crenate, hairy on both sides; stalks about 1 in. long, hairy. Flower heads small, in dense terminal corymbs; bracts striate, linear, sharply pointed; flowers many, pale blue or white, foul smelling; pappus scales 5. Fruit an achene, minute, black.

Distribution: Commonest weed of the tropics.

Uses: An infusion of the weed is given as a tonic in diarrhoea and flatulent colic. The juice or the herb is used in prolapse of the anus.

The leaves are given with water as an emetic. A hot poultice of the leaves and stem is applied to leprous sores and other skin diseases. They are used intravaginally for uterine disorders. They have anti-tetanic and styptic properties.

15. AILANTHUS EXCELSA ROXB. (24)

Family: *Simarubaceae*

Local Names: maha nim, maha rukh

English Name: Tree-of-Heaven.

Uses: The leaves and bark are a bitter tonic, astringent and febrifuge. As a tonic they are particularly used in debility after child-birth; the juice of the leaves or of the fresh bark is given with cocoanut milk and *gur* to check after-pains. The bark is

given in dysentery, bloody stools, dyspepsia, bronchitis, asthma, general debility and want of appetite; its infusion is given in doses of one of three ounces twice daily; its powder is given in doses of five grains as a febrifuge; it serves as an emetic if the powder is given in doses of 15 grains.

16. AILANTHUS MALABARICA DC.

Family: *Simarubaceae*

Local Names: guggaldhup, mahanimbu.

Description: A lofty tree, shedding its leaves annually all at one time; bark grey, rough, distinguished from the allied plant *A. excelsa* Roxb. by having leaflets entire; petals erect; stamens longer than the ovate cordate anthers; fruits winged, broad and not twisted.

Distribution: The Deccan and the Western Ghats.

Uses: The bark contains ailanthic acid; the bark is a valuable tonic and febrifuge; its juice is given with milk or curds twice a day for dysentery and diarrhoea.

The fragrant gum-resin that exudes from the trunk is known as *mutti-pal;* it is a valuable remedy for dysentery and bronchitis; the powdered resin is given with milk.

17. ALANGIUM SALVIIFOLIUM WANG. (25)

Family: *Alangiaceae*

Local Names: akola, ankollaka, ankota.

Uses: The root contains the alkaloid alangine. It is given as decoction or infusion with *ghee* for bites of dogs and vermin, worms, colic and inflammation; it acts as a hydrogogue cathartic in dropsy. The root-bark is a good substitute for ipecacuanha; as an emetic it is given in doses of 30 grains; in smaller doses of six to ten grains it acts as a nauseant, diaphoretic and febrifuge; it is also used as an anthelmintic, purgative and antidote; as an alterative it is given in doses of two to five grains; as a diuretic in ascites in doses of six to ten grains; as an antidote it is useful for several poisons.

18. ALBIZZIA LEBBECK BENTH. (26)

Family: *Leguminosae*

Local Names: kalsish, sirisa.

English Names: Black Siris, Indian Walnut, Siris Tree.

Uses: For the treatment of night blindness a decoction of the leaves is given and the leaf juice is applied to the eyes.

The bark and the seeds are astrigent; they are given in piles, diarrhoea, dysentery, gonorrhoea, etc. A decoction of the bark is a mouth-wash for the relaxed condition of the gums.

The pulverized root-bark makes a useful tooth powder for the cure of spongy and ulcerated gums.

The flowers are used as an emollient on boils, eruptions, carbuncles and swellings.

The powdered seeds are given in one and a half drachm doses for scrofulous enlargement of glands. A poultice of the seeds is applied to reduce the swelling of cervical glands. An ointment made of the seeds is used for diseases of the eye.

19. ALHAGI MAURORUM MEDIC.

Family: *Leguminosae*

Local Names: javasa, yavasa.

English Names: Arabian Manna, Camel's Thorn.

Description: A small herb covered with numerous, hard, ½-1 in. long prickles. Leaves simple, drooping, oblong, leathery, smooth, apex rounded. Flowers 1-6, borne on a spine or on a short stalk, small; corolla reddish, much longer than the calyx. Pods upto 1 in. long, curved or straight, greenish grey, very hard.

Distribution: The Punjab, North-West Frontier Province, Upper Gangetic plains, the Konkan.

Uses: The plant is laxative, diuretic and expectorant. Its fresh juice is given with aromatics for relieving the suppression of urine. A poultice of the plant or the smoke from the burning plant is applied over piles. The juice of the plant is locally used for opacity of the cornea; it is sniffed for relief of migraine.

Yavarkar, the extract obtained by evaporating a decoction of the plant, is used as a demulcent and sedative in cough, especially of children; it is also a cholagogue, aphrodisiac and restorative.

The manna or the sweet exudation on the leaves and branches is known as *taranjabin;* it is a restorative, aphrodisiac, aperient, cholagogue, expectorant, diuretic and blood purifier.

20. ALLIUM CEPA LINN.

Family: *Umbelliferae*

Local Names: palandu, piyaz.

English Name: Onion.

Description: A bulbous biennial herb. Leaves linear, hollow, fleshy. Flower heads dense with flowers and bulbils; main stalk erect, hollow, long, glaucous; flowers borne on the top of the stalk in umbels forming a globular head, white or bluish. Bulbs rounded at top and bottom.

Distribution: Widely cultivated throughout India and Pakistan.

Uses: The bulb or onion is a stimulant, diuretic, expectorant and rubefacient. As an emmenagogue and diuretic it is eaten raw; its juice, in doses of four to eight drachms with sugar, is prescribed for piles; its decoction is given in cough and stranguary; cooked with vinegar the bulb is given in jaundice, splenic enlargement and dyspepsia; taken with salt it is a common remedy for colic and scurvy; onion is also used in obstruction of the intestines, prolapse of the anus and as a sedative.

As an emollient crushed onion or its juice is applied over skin diseases and insect bites; its paste is applied with salt to unbroken chilblains; a poultice of the roasted bulb is used over indolent boils, wounds, broken chilblains, suppurating ears etc. Onion juice with mustard oil is applied as a liniment over painful joints, inflammatory swellings and skin diseases. A compress made of a roasted bulb applied to inflamed or protruding piles gives certain relief.

21. ALLIUM SATIVUM LINN.

Family: *Liliaceae*

Local Names: lasan, lashuna.

English Name: Garlic.

Description: A strong smelling, glabrous, bulbous-rooted, hardy perennial, about 12 in. in height. Leaves flat, very narrow, keeled. Flower heads lax, bearing both flowers and bulbils; stalks slender; bracts covering the heads beaked, long; flowers white, bulbs short, compressed, breaking up into 10-12 bulbils or cloves, surrounded by a few, dry membranous scales.

Distribution: Cultivated throughout India and Pakistan.

Uses: Garlic resembles squill (*Urginea maritima*) in its medicinal properties; it is given in fevers, coughs, flatulence, disorders of the nervous system, agues, dropsical affections, pulmonary phthisis, whooping cough, gangrene of the lung and dilated bronchi. It has diuretic and emmenagogic properties as well. A decoction of garlic made with milk and water is given in small doses in hysteria, flatulence, sciatica etc. Garlic, in the form of a syrup, is a valuable remedy for asthma, hoarseness and disorders of the chest and lungs. As an anthelmintic the juice of garlic is given in doses of 10 to 30 drops; garlic syrup is given in doses of a drachm.

Externally garlic is used as rebufacient, vesicant and disinfectant. It is applied to indolent tumours, ulcerated surfaces and wounds; a poultice of the bulb is used for scrofulous sores and ringworm. A clove of garlic is introduced in the ear passage for relief of earache. As a rubefacient garlic is locally used in sciatica, paralysis and neuralgic pains. A garlic poultice is applied on the abdominal and pubic regions in retention of urine due to atony of the bladder. Raw garlic juice is inhaled in whooping cough and pulmonary tuberculosis. The oil in which garlic has been fried is a useful liniment for rheumatic pains, nervous diseases like infantile convulsions, scabies and maggot infested wounds.

The oil extracted from the seeds is given for checking cold fits of intermittent fevers. As a liniment it is used for paralytic and rheumatic affections.

22. ALOCASIA INDICA SCHOTT.

Family: *Araceae*

Local Names: manaka, mankanda.
English Names: Giant Taro, Great-leaved Caladium.
Description: A stout herb, 3-8 ft. high; above ground stem swollen and succulent; underground rhizome horizontal. Leaves attached to the petiole at their basal margin, entire, ovate-cordate, upto 3 ft. long, pointed apex deflexed, margins wavy, leaf stalks 2-3 ft. long. Flower stalks 4-8 in. long, several, usually paired; bract enclosing the spadix 8-12 in. long, yellowish green, occasionally marked with reddish streaks, foul smelling, finely wrinkled.
Distribution: Found all over Tropical Asia.
Uses: The juice of the leaves or their decoction is given for colic and constipation; the acrid juice extracted from the slightly roasted leaf-stalk is astringent and styptic.
The root-stock is a mild laxative and diuretic; it is generally used in piles, constipation and dropsy in the form of a gruel; the ash of the root-stock is used as an anthelmintic; mixed with honey it is applied in the aphthous condition of the mouth.

23. ALOE BARBEDENSIS MILL.

Family: *Liliaceae*

Local Names: ghrita kumari, ghee kunvar, musabbar.
English Name: Indian Aloe.
Description: Plant erect, 2-3 ft. high, cespitose. Leaves fleshy, convex below, 1½-2 ft. long, tapering to a blunt point, smooth, pale green, irregularly white blotched, horny prickles on the margins. Flowers yellow or orange coloured, cylindrical, about 1 in. long.
Distribution: Throughout India and Pakistan.
Uses: The leaves are alterative, stomachic, aphrodisiac, cathartic, emmenagogic, astringent, antidotal, anthelmintic and hepatic stimulant; after removing their skin they are given in fevers, enlargement of the liver, spleen and other glands, skin diseases, gonorrhoea, constipation, menstrual suppression, piles, jaundice and rheumatic affections; in diseases of the liver and spleen the

pulp of one leaf is administered with black salt and ginger every morning for 10 days; the juice of a roasted leaf is given with honey for cough and cold; the pulp of one leaf is given daily in abdominal tumours, dropsy, carbuncles, piles, sciatica, lumbago, rheumatism and retention of urine in fevers; in indigestion, constipation and flatulence a salad of the leaves is eaten.

As a substitute for the fresh leaves the inspissated leaf juice, locally known as *elio*, is used in small doses of two to four grains; it is a household remedy for intestinal worms in children; in large doses *elio* is a purgative, emmenagogue and anthelmintic; it is to be taken continuously for many days.

The fresh juice and *elio* are an efficacious local application for painful inflammations of the body and chronic ulcers; the strained mixture of the juice and rose water is a useful eye wash for catarrhal and purulent ophthalmia and other eye diseases; a poultice of the leaves is applied to tumours, cysts, inflamed parts, burns and scalds.

24. ALPINIA GALANGA WILLD.

Family: *Scitaminaceae*

Local Names: barakalinjan, kulanjan.

English Names: Greater Galanga, Siamese Ginger.

Description: A herbaceous plant, 6-7 ft. high. Leaves lanceolate, smooth, margins white. Flowers in dense panicles, small, greenish white; lip veined with red, obovate, clawed. Fruit orange red.

Distribution: Eastern Himalayas and South-west India.

Uses: The rhizome is aromatic, carminative, stimulant, tonic, stomachic and aphrodisiac; it is used in rheumatism, catarrhal affections, especially bronchial catarrh, incontinence of urine and diabetes; it is given in doses of five to ten grains.

The rhizome is used as a deodorizer of foul smell from the mouth and other parts of the body; its paste made with a bland oil is applied over acne and other skin diseases.

The seeds have the same uses as the rhizome.

25. ALSTONIA SCHOLARIS R. Br. (30)

Family: *Apocynaceae*

Local Names: chatian, saitan-ka-jhad, saptaparna.

English Names: Devil's Tree, Ditta Bark Tree.

Uses: A poultice of powdered roasted leaves is a local stimulant when applied to ulcers with a foul discharge. The juice of leaves and of fresh ginger is given to women after childbirth.

Ditta bark contains many alkaloids, the most important being ditamine and ditaine. It is an excellent substitute for cinchona and quinine for the treatment of intermittent and remittent fevers; its powder is given in doses of 20 to 60 grains; its extract is given in doses of two to ten minims; an infusion of the bark is given in fevers, dyspepsia, debility, skin diseases, liver complaints, chronic diarrhoea and dysentery; one to two fluid ounces of the infusion are given two or three times a day. In bowel complaints three to five grains of the powdered bark are prescribed; in catarrhal dyspepsia 15 grains are given at night. The bark is useful also as an emmenagogue, astringent, galactagogue and anthelmintic.

26. AMARANTHUS POLYGAMUS LINN.

Family: *Amaranthaceae*

Local Names: cholai-bhajee, chundisag, tanduliyaka.

Description: A small, herbaceous annual. Leaves alternate, obovate, dotted, upto 1 in. long, ½ in. broad, tip pointed. Flowers small, monoecious, in axillary clusters. Fruit an ovoid, compressed sac, opening transversely.

Distribution: Common in the plains of India and Pakistan.

Uses: A decoction of the leaves or roots is given in one to two ounce doses in diarrhoea, leucorrhoea, menorrhagia and impotence. A poultice of the leaves with honey is applied over inflamed and painful parts.

The roots are given in colic, gonorrhoea and eczema.

The seeds are cooling, demulcent and powerfully aphrodisiac; they are given in leucorrhoea and impotence.

27. ANACARDIUM OCCIDENTALE LINN. (31)

Family: *Anacardiaceae*

Local Names: hijli-badam, kaju.

English Name: Cashew Nut Tree.

Uses: The bark is an alterative; its juice is a rubefacient, vesicant and counter-irritant; it is used locally in leprosy, ringworm, corns and obstinate ulcers.

Cashew apple, the enlarged, succulent flower-stalk, is used for the cure of scurvy and diarrhoea; its juice being a powerful diuretic is given in uterine complaints and dropsy; it is a useful local application in neuralgic pains and rheumatism.

The oil extracted from the shell of the nut is acrid, highly rubefacient and vesicant; it is applied to warts, corns, ulcers, psoriasis and ringworm; it is also locally used in elephantiasis and in the anaesthetic form of leprosy.

The oil expressed from the seed is an emollient.

28. ANAMIRTA COCCULUS W. & A.

Family: *Menispermaceae*

Local Names: garudphula, kakamari, kakaphula.

English Names: Fish Berry, Levant Berry.

Description: A large, smooth, woody climber; bark on old stem spongy, deeply cracked. Leaves leathery, broadly ovate or cordate, long stalked, blade 4-10 in. long 2.5-8 in. broad. Flowers green, fragrant, in 12-15 in. long, pendulous panicles, unisexual, dioecious. Drupes usually in pairs, roundish or kidney-shaped, white at first, turning black on ripening.

Distribution: Eastern Bengal, Orissa and Southern India.

Uses: The dried ripe fruit is the *Cocculus fructus* or *Cocculus indicus* of commerce; it is a powerful narcotic; the juice of the fresh berries is applied to scabies and foul ulcers. An ointment made of the seeds, after removing the seed coat, is a powerful germicide; it is locally used for ringworm, prurigo and other obstinate parasitic skin diseases; it is also used for killing head lice; it must not be applied to broken skin. The active principle of the seeds is picrotoxin, a powerful convulsive poison.

29. ANDROGRAPHIS PANICULATA NEES.

Family: *Acanthaceae*

Local Names: Kirata, kiryata, mahatitka.

English Names: The Creat, Creyat Root.

Description: An erect annual herb; stem 4-sided, smooth. Leaves entire, pointed at both ends, up to 3 in. long, 3/4 in. broad. Flowers in long racemes; calyx glandular pubescent; corolla 2-lipped, pink, white spotted, very small. Capsules subcylindric, 12-seeded.

Distribution: Throughout India and Pakistan.

Uses: The herb is a bitter tonic, febrifuge, antiperiodic, stomachic, alterative and anthelmintic; a strong infusion or decoction of the dried roots and stalks is given in convalescence after fevers, malarial fevers, dysentery, dyspepsia and liver disorders.

The leaf juice is a household remedy for flatulence, loss of appetite, bowel complaints of children, diarrhoea, dysentery, dyspepsia and general debility; it is preferably given with the addition of aromatics.

30. ANISOMELES MALABARICA R. Br.

Family: *Labiatae*

Local Names: chaudhara, gojibha, guligaozaban.

English Name: Malabar Catmint.

Description: An erect, coarse shrub, upto 6 ft. high, covered with hair; leaves opposite, thick, up to 5 in. long, 2 in. broad, margins toothed, under surface hairy. Flowers pale purple, in axillary whorls of dense cymes shortly elongating in fruit; bracts 2 to each flowers; calyx hairy. Fruit of 4 dry nutlets.

Distribution: The Ghauts and South India.

Uses: The aromatic herb is antiperiodic, antipyretic, carminative, and diaphoretic; its infusion is given in bowel complaints, intermittent fevers, catarrh and rheumatism; its decoction is used as an antispasmodic and emmenogogue. Rheumatic joints are fomented with the hot decoction.

An infusion of the leaves is a powerful diaphoretic; it is given in half to one ounce doses in intermittent fevers, catarrhal affections and disorders of the stomach and bowels.

The essential oil distilled from the leaves is applied locally in rheumatism and rheumatic arthritis.

31. ANNONA SQUAMOSA LINN. (33)

Family: *Annonaceae*

Local Names: sharifa, sitaphal.
English Name: Custard Apple.
Uses: An infusion of the leaves is applied in prolapse of the anus of children; a poultice of the leaves made with salt is applied to boils, ulcers, maggot infested sores and malignant tumours: persons having hysterical or fainting fits are made to inhale crushed leaves or their juice; a paste of the leaves is locally applied to kill head lice and to extract guinea-worms.

The bark is given in diarrhoea and as a tonic.

The root is a drastic purgative; it is given in acute dysentery, melancholia and spinal diseases.

A paste of the ripe fruit made with salt is a maturant for malignant tumours. The unripe fruit is prescribed in diarrhoea, dysentery and atonic dyspepsia.

A paste of the seeds is used for extracting guinea-worms and for killing head lice. It is used as an abortifacient by applying it to os uteri.

32. APIUM GRAVEOLENS LINN.

Family: *Umbelliferae*

Local Name: ajmoda.
English Name: Celery.
Description: A biennial, erect, branching herb. Leaves arising from the roots pinnate, deeply lobed; those arising from the stem 3-partite; segments coarsely toothed at the apex. Flower stalks very short, leaf-opposed; umbel rays 5-10. Fruit minute, ridges narrow, vittae broad.
Distribution: Hills of the Punjab and foot of the North-West Himalayas.
Uses: The root is alterative and diuretic; it is given in dropsy and colic.

The seeds are a carminative, diuretic, stomachic, aphrodisiac,

tonic, astringent to the bowels, cordial, laxative, appetizer, stimulant, emmenagogue, anthelmintic, abortifacient and antispasmodic; as an antispasmodic they are used in asthma, bronchitis and liver and spleen diseases; they are given in vomiting, amenorrhoea, urinary discharges, rheumatism, hiccough, rectal troubles, ascites, flatulence, nasal catarrh, fever with cough etc.

33. ARECA CATECHU LINN. (38)

Family: *Palmae*

Local Name: supari.

English Names: Areca-nut Palm, Betel-nut Palm.

Uses: Either a hot poultice of the leaves or their juice mixed with some bland oil is applied to the loins in lumbago.

The nut contains many alkaloids, e.g. arecaine, arecoline, arecaidine etc., of which the most active is arecoline. The poisonous property of the nut is generally destroyed on drying but not always; but it is wholly destroyed when the nut is cooked. The nut is a laxative, carminative, aphrodisiac and nervine tonic. The ripe dried nut is a masticatory; it sweetens the breath, removes bad taste from the mouth, strengthens the gums and checks perspiration. Its powder is a well known anthelmintic, especially for round worms and tapeworms; four to six drachms of the powder are given with milk, syrup or honey; or a teaspoonful of the grated nut is given with milk every 12 or 14 hours till the worm is expelled. As an astringent the nut is given in the relaxed condition of the bowels in doses of 10 to 15 grains with sugar every three or four hours. The nut is prescribed in calculous affections, urinary disorders, heartburn of pregnancy and vaginal discharges.

34. ARGMONE MEXICANA LINN. (39)

Family: *Papaveraceae*

Local Names: bherband, bramha-dandi.

English Names: Mexican Poppy, Prickly Poppy.

Uses: The weed contains the alkaloids protopine and berberine. Its juice is diuretic and alterative; it is given in dropsy,

jaundice, skin diseases and gonorrhoea. Being mildly corrosive the juice is applied to blisters, rheumatic pains, excoriations, ulcers, scabies, herpetic eruptions, warts and chancres.

The root is alterative and stimulant; its decoction is given in gonorrhoea, blennorhoea, gleet, vesicular calculus and skin diseases. A drachm of the root is administered for tapeworm. Its paste is applied over boils and abscesses; a poultice of the root and onion is used for extracting guinea-worms. A decoction of the root is an eye-wash, a mouth-wash and a lotion for inflammatory swellings.

The seeds are narcotic, stomachic, emetic, expectorant, nauseant, cathartic and demulcent. They are given in cough, catarrhal affections, pulmonary diseases, asthma and whooping cough.

The oil from the seeds, known as katakar oil, is a purgative, narcotic and demulcent. In doses of less than 30 minims the oil acts as an aperient in dysentery and other inflammatory diseases of the intestines; in larger doses of four to five grams it is a mild purgative and a nauseant; in syphilis and leprosy it is used as an alterative. The oil is applied locally over skin diseases.

35. ARGYREIA SPECIOSA SWEET.

Family: *Convolvulaceae*

Local Names: samudrapalaka, samudrasosh.

English Name: Elephant Creeper.

Description: A large climber; stem white-tomentose. Leaves ovate or cordate, up to 12 in. long, glabrous above, white-tomentose beneath, long stalked. Flowers in cymes; bracts large, thin, veined, pubescent outside, glabrous inside; calyx white tomentose outside; corolla funnel shaped, silky pubescent outside, tube somewhat inflated, rose-purple, about 2 in. long.

Distribution: Throughout India and Pakistan near the sea.

Uses: The root is an alterative, bitter, aphrodisiac, diuretic and tonic; a powder of the roots is given with *ghee* as an alterative; in elephantiasis the powder is given with rice water; in inflammation of the joints it is given with milk and a little castor oil; in paraplegia it is taken with ginger and hot water. A paste of the roots made with rice water is applied over rheumatic swell-

ings, nettle rash and migraine; mixed with vinegar the juice of the root is rubbed over the body to reduce obesity.

The leaves are antiphlogistic; they are applied over skin diseases and wounds; the silky reverse side of the leaf is applied over tumours, boils, sores, carbuncles etc. as an irritant to promote maturation and suppuration; when the swelling has subsided, the boils, sores etc., have broken and the suppuration has finished the smooth upper surface of the leaf, coated with some bland oil, is applied; the obverse smooth side of the leaf has cooling and healing properties. The leaf is also used for extracting guinea-worms.

A drop of the leaf juice is used in otitis.

36. ARISTOLOCHIA BRACTEATA RETZ.

Family: *Aristolochiaceae*

Local Names: dhumra patra, kiramar.

English Name: Worm-killer.

Description: A perennial, slender, prostrate herb. Leaves glaucous, heart shaped or kidney shaped, up to 3 in. broad. Flowers axillary, solitary; bract roundish; perianth tube greenish, dilated at base, expanding in an inflated obliquely 2-lipped, dark purple, trumpet shaped mouth. Capsules 6-valved, 12-ribbed; seeds numerous, thin, heart shaped.

Distribution: Gujarat, the Deccan, Upper Gangetic Plain and Bengal.

Uses: The herb is an anthelmintic, emmenagogue, purgative and antiperiodic; its infusion is given in doses of one to two ounces.

The juice of fresh leaves is antiperiodic and emmenagogic; it stimulates the contraction of the uterus in tedious labour; it is given with milk in syphilis and gonorrhoea. A couple of leaves taken with water relieves griping or colic. An infusion of the dry leaves in doses of half an ounce taken twice daily is a good anthelmintic. A paste of the fresh leaves made with castor oil is applied to scabies and eczema of the legs of children; the fresh juice or a powder of dry leaves is applied to maggot infested wounds. Fresh leaves applied to the navel of children encourage the bowels to move.

A powder of the dried roots taken in doses of one and a half drachms increases uterine contraction during labour; the root is an efficient substitute for ergot; a decoction of the root in doses of one to two ounces is taken three times a day for expelling round worms.

37. ARISTOLOCHIA INDICA LINN.

Family: *Aristolochiaceae*

Local Names: arkmul, isharmul, sapsan.
English Name: Indian Birthwort.
Description: A shrubby or herbaceous twiner with a woody root-stock; stems grooved, slender. Leaves linear to obovate, 2-4 in. long, 1-2 in. broad, smooth, margins entire. Inflorescence in axillary racemes; bracts small, ovate; flowers greenish white; perianth tube swollen and lobed at the base, then bent at right angle and tapering upwards; mouth trumpet shaped with a long narrow, purplish lip. Capsules 1½-2 in. long, oblong, grooved, 6-valved; seeds triangular, winged.
Distribution: Throughout India and Pakistan.
Uses: The plant contains the alkaloid aristolochine.

The fresh juice of the leaves or of the bark is given in croup of children, cholera, bowel complaints and intermittent fevers in half to two drachm doses. The juice with honey is applied to leucoderma patches.

The root and the stem are alterative, aperient, stimulant tonic, emmenagogue, diuretic, antiarthritic and febrifuge; one to two ounces of a decoction of the root or stem are usually prescribed; with the addition of black pepper and ginger the decoction is used as a carminative. The root is given with honey for leucoderma. The root is used as an emetic in poisoning caused by metals and narcotic plants.

38. ARTIMISIA ABSINTHUM LINN.

Family: *Compositae*

Local Names: afsanthin, vilayati afsanthin.
English Names: Absinthe, Wormwood.
Description: An aromatic, bitter, herbaceous, hairy perenni-

al. Stem 1-3 ft. high, erect, angular and ribbed. Leaves 1-2 in. long, ovate, unequally cut into segments, hairly on both surfaces. Flower heads numerous, yellow, minute, stalked, in drooping racemes. Fruit an achene, minute.

Distribution: Kashmir from 5,000 to 7,000 ft.

Uses: The whole herb is used medicinally but the leaves are preferred; the fresh plant is more efficacious than the dry plant. It is a tonic, stomachic and anthelmintic. Small doses of its infusion or powder are given for relieving bilious melancholia and for dispersing the yellow bile of jaundice from the skin. It is given in atonic diseases of the digestive system, nocturnal pollutions, anasarca, anaemia, wasting diseases, general debility and in amenorrhoea in doses of one to two grains. As an anthelmintic the herb, especially the dried flowers, is prescribed for round worms and tapeworms in doses of four to 16 grams.

The herb is applied as a poultice or as a fomentation to gouty or rheumatic joints and to the head in cephalalgia; it is a useful discutient, antiseptic and detergent in skin diseases. The herb pickled in hot vinegar is applied to sprains and bruises. An infusion of the herb is given as an enema for killing worms in the rectum.

The oil distilled from the plant is an anthelmintic; it is mixed with eight times its weight of olive oil and given in doses of 50 to 100 grams.

39. ARTIMISIA MARITIMA LINN.

Family: *Compositae*

Local Names: chaur, chhara, kirmala.

English Names: Santonica, Wormseed.

Description: A perennial, hairy herb, erect, prostrate or ascending; above ground stem 6-18 in. high, woody or wiry; underground stem branched, woody. Leaves up to 2 in. long often white, ovoid, divided twice pinnately; leaf stalks slender. Flower heads arranged in short spikes; flowers few, often reddish.

Distribution: Western Himalayas and Baluchistan.

Uses: The herb is antiperiodic, aperient, stomachic, tonic, anthelmintic and respiratory and cardiac stimulant; a cupful of an infusion of the fresh herb is given two or three times a day.

As a discutient and antiseptic a fomentation of the herb is applied over inflammations, tumours and foul ulcers.

The flowering tops contain the drug santonine. They are anthelmintic, aperient and stomachic; they are given in does of two to four drachms.

40. ARTEMISIA NILAGIRICA PAMPANINI*

Family: *Compositae*

Local Names: Damanaka, nagadamani, nagdona.

English Names: Indian Wormwood, St. John's Plant.

Description: An aromatic perennial herb, 2-8 ft. high. Stems branched, red, ribbed, erect, rough. Upper leaves smaller than lower, 3-lobbed or entire; lanceolate; lower leaves 2-4 in. long, ovate pinnately lobed, hairy on both surfaces; stalks winged. Flower heads small, reddish yellow or whitish, drooping, in branched, wooly spikes. Fruit minute.

Distribution: Western Himalayas, Assam and Western and Southern India.

Uses: The herb is antispasmodic, expectorant, stomachic, tonic, aperient, emmenagogue, antilithic, anthelmintic and antidotal; the herb is prescribed particularly for obstructed menses, hysteria, preventing abortion and assisting parturition; it is given as an infusion or electuary.

The leaves and flowering tops are prescribed for nervous and spasmodic diseases; they are stomachic, emmanagogue, expectorant and tonic. As an anthelmintic a strong decoction is given; a weak decoction is given to children in measles; a few drops of the juice of the leaves are prescribed for whooping cough. For checking haemorrhage, metrorrhagia, dysentery and intestinal and urinary troubles one drachm of the powdered leaves is given four times a day. A confection made of the leaves with rice and sugar is used for the promotion of the monthly flow. A paste or powder of the leaves is applied over skin diseases.

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* In the first edition of this book the plant was named *Artemisia vulgaris* Linn; the plant is now known as *A. nilagirica* Pampanini.

41. ASPARAGUS RACEMOSUS WILLD.

Family: *Liliaceae*

Local Names: shatavar, shatavri.

Description: A tall, delicate, climbing plant; stem, woody, columnar; branchlets triangular; spines recurved. Leaves absent; cladodes in tufts of 2 to 6, curved. Flowers white, fragrant, in racemes, Berries red.

Distribution: Throughout India and Pakistan.

Uses: The tuberous roots are unctuous, demulcent, diuretic, aphrodisiac, laxative, expectorant, galactagogue, tonic, cooling, alterative, appetizing, antispasmodic, stomachic, astringent to the bowels; they are useful in dysentery, diarrhoea, tumours, inflammations, biliousness, diseases of the blood, kidney, liver and eye, throat complaints, tuberculosis, leprosy, epilepsy, night blindness, scalding urine, rheumatism, dyspepsia, gleet and gonorrhoea. As a diuretic a powder of the root is taken with cold water; for relief of biliousness the juice of the root taken with honey is very efficacious; as a tonic and aphrodisiac 180 grains of the root powder is given with milk and sugar; in dysentery and internal piles and as a galactagogue the powder of the root, in doses of about 45 grains, is given with milk.

42. ASTERACANTHUS LONGIFOLIA NEES.

Family: *Acanthaceae*

Local Names: gokulakanta, gokshura, ikshura.

Description: A stout, rough, thorny annual. Flowers sessile, bright blue, among verticils of lanceolate leaves and thorns; corolla lip with a yellow spot.

Distribution: Throughout India and Pakistan in swamps.

Uses: The ash of the weed is given, preferably with cow's urine, in doses of 20 to 45 grains in dropsy; the dried plant is a diuretic, blood purifier and aphrodisiac.

The root is an excellent diuretic, demulcent and stimulant; it is used in dropsy, gonorrhoea, hepatic obstruction, rheumatism and urinary disorders including stone and gravel in the kidneys;

its decoction is given in doses of one to two ounces two or three times a day; the decoction is also used as a soporific.

A decoction of the leaves is administered in rheumatism, syphilis and gonorrhoea.

The seeds are used in gonorrhoea and urinary diseases; the mucilage obtained by infusing the seeds in water is prescribed in gonorrhoea and as a tonic.

43. ATROPA ACUMINATA ROYLE EX LINDLEY

Family: *Solanaceae*

Local Names: angur-shera, sag-angur.

English Names: Indian Atropa, Indian Belladonna.

Description: A tall, erect herb, 3-5 ft. high. Leaves stalked, elliptic-lanceolate, 3-6 in. long, 2-4 in. broad; apex acute. Tap root very large. Flowers solitary, bell-shaped, usually yellow coloured; stalk short. Berries small, roundish, purple black.

Distribution: Western Himalayas and Baluchistan.

Uses: This plant has the same medicinal properties as the European *Atropa belladonna*. It contains two alkaloids, hyoscyamine and atropine. The leaves and roots are used as a sedative, antispasmodic, narcotic and antihydrotic; they are a valuable antidote in opium and muscarine poisoning; the leaves and roots are given in half to three grain doses. The dried leaves are smoked as an antispasmodic. The root is generally used externally and not internally; it is used as an anodyne for rheumatism, neuralgia, lumbago and local inflammations.

44. AZADIRACHTA INDICA ADR. JUSS. (46)

Family: *Meliaceae*

Local Names: bal nim, nim, nimba.

English Names: Margosa Tree, Nim Tree.

Uses: The leaves are carminative, expectorant, anthelmintic, antidotal, antilithic, diuretic, emmenagogic, discutient and insecticidal; the fresh juice with salt is given for intestinal worms; with honey the juice is prescribed for jaundice and skin

diseases. The juice is given in doses of half to one drachm An infusion or a decoction of the fresh leaves is a bitter vegetable tonic and alterative, especially in chronic malarial fevers, because of its action on the liver; it is given in half to 2 ounce doses. Externally the leaves are applied over skin diseases as a discutient, stimulant and antiseptic; they are specially used for boils, chronic ulcers, eruptions of smallpox, syphilitic sores, glandular swellings, wounds etc.; they are used either as a poultice, decoction, liniment or ointment. A piece of cloth saturated with the decoction to which has been added a little spirit of camphor is bandaged over compound fractures. A strong, warm decoction is an effective vaginal douche in after-treatment of childbirth.

The bark is a bitter tonic, astringent, alterative, antiperiodic, anthelmintic, antispasmodic and stimulant; its decoction is used, in the same way as that of the leaves, for skin diseases, jaundice, liver complaints etc. in doses of half to two ounces; the pulverized bark is similarly used in doses of one drachm thrice a day. As an anthelmintic the decoction is given for round worms; one tablespoonful is given every one or two hours till the worms are expelled; 20 grains of the bark is equally effective if followed by a purgative.

The root-bark has the same properties as the bark of the stem.

The gum that exudes from the stem is a stimulant and demulcent tonic and is used in catarrhal diseases and general debility.

The toddy or the fermented saccharine sap that exudes from the trunk is a refrigerant, nutrient, stomachic and alterative tonic; it is given in phthisis, chronic leprosy, skin diseases and general debility.

The tender twigs are chewed to keep the teeth and gums clean and healthy.

An infusion of the flowers is administered in atonic dyspepsia and general debility; it is a stimulant, tonic and stomachic. For relief of nervous headaches a poultice of the flowers or leaves is applied.

The fruit is highly recommended for urinary diseases, piles, intestinal worms, leprosy etc.

The seeds are emetic, laxative and anthelmintic. The oil from the seeds is given as an anthelmintic in does of 30 minims

to one drachm; as an alterative it is given in doses of five to 10 minims a day in chronic malaria, syphilis, leprosy and other skin diseases. Externally the oil is applied as an antiseptic dressing in leprosy, suppurating glands, urticaria, chronic skin diseases like eczema, scabies, ringworm etc. and maggot infested wounds. A paste of the dried seeds has the same uses as the oil; it is also used for killing head lice.

45. BACOPA MONNIERA (LINN.) PENNEL

Family: *Scrophulariaceae*

Local Names: bamb, lonika, shvet chamni.

English Name: Thyme-leaved Gratiola.

Description: A succulent, glabrous, creeping herb; branches several. Leaves obovate, entire, apex broad, fleshy, sessile, lower surface dotted. Flowers solitary, stalked, blue or white; Capsules ovoid, 2-grooved; seeds numerous.

Distribution: Throughout India and Pakistan in wet places.

Uses: The herb is a febrifuge and nervine and cardiac tonic; it is given in insanity, epilepsy, fever etc.; it is superior to nux vomica, being less toxic. A hot poultice of the plant is applied in acute bronchitis, cough and chest diseases of children.

The leaf juice, in doses of a teaspoonful, is given to children in catarrh, bronchitis and diarrhoea. Fried leaves are eaten for relief of hoarseness of voice. Dried leaves are an efficacious remedy for debility, nervous breakdown and other low dynamic conditions. The leaves are given in stoppage of urine accompanied by obstinate costiveness. Externally the leaf juice is applied to swellings; a good liniment for rheumatism is a mixture of the juice and petroleum.

46. BAMBUSA BAMBOS VOSS.*

Family: *Gramineae*

Local Names: bans, kalak, kanta bans, nal bans.

English Names: Common bamboo, Spiny Bamboo.

*In the first edition of this book the plant was named *Bambusa arundinacea* Retz.; the plant is now known as *B. bambos* Voss.

Uses: A decoction of the leaves is useful as an emmanagogue, especially to induce lochia after childbirth; as an anthelmintic they, preferably the leaf-buds, are particularly useful for threadworms; the leaf juice is given with aromatics in vomiting of blood.

The young shoots contain hydrocyanic and benzoic acids; they are stomachic and stimulant; they are given in respiratory diseases; pickled or cooked tender shoots aid digestion and are an appetizer; a poultice of the tender shoots is used for cleaning wounds and maggot infested sores.

A decoction of the joints of the bamboo stem is a useful emmenagogue; it is also used as an abortifacient. The decoction applied to inflamed joints gives relief.

Tabashir or *vansa rochana*, a silicious crystalline secretion found in the culms of the female plants, is a febrifuge, expectorant, tonic, aphrodisiac, demulcent and pectoral; it is given in hectic fever, phthisis, asthma, paralytic complaints, etc.

47. BARLERIA PRIONITIS LINN.

Family: *Acanthaceae*

Local Names: katshareya, kurantak.

Description: A prickly, variable shrub, spines sharp, white, leaves stalked, opposite, entire, elliptic, apex spinous, smooth above, often softly hairy beneath. Flowers sessile, solitary in lower axils, in dense spikes above; bracts leaf-like, oblong, spinous pointed; corolla yellow or whitish or buff coloured. Capsules ovoid or oblong.

Distribution: Common in tropical India and Pakistan.

Uses: The leaf juice, in doses of two tablespoonfuls with honey, is given twice a day in catarrhal diseases of children; with cumin seeds it is given in spermatorrhoea.

The juice is applied as a dressing for the feet in the rainy season to protect them from cracking; mixed with honey it is applied to bleeding gums; it is used in otitis. A paste of the leaves with salt is applied to strengthen the gums and to relieve toothache. Sweet oil in which the leaves and stems have been boiled is a dressing for wounds.

The juice of the bark is diaphoretic and expectorant; it is

given in dropsy in doses of 350 grains with milk. The dried bark is given in whooping cough.

The whole plant is diuretic, tonic, febrifuge and anticatarrhal; its decoction is given in dropsy.

48. BARRINGTONIA ACUTANGULA GAERTN. (50)

Family: *Lecythidaceae*

Local Names: hijjal, samudra-phal.

English Name: Indian Oak.

Uses: The bark is astringent; it is used in diarrhoea and blennorrhoea; as a febrifuge it is given in malaria. The wood being hemostatic is useful in metrorrhagia.

The root is an aperient, emetic and a good substitute for cinchona; it is locally applied in colds.

The fruit is astringent, tonic, emetic and expectorant.

The seeds, in doses of two to three grains, are given with milk to children having enlarged abdomen; as an emetic for children they are given in doses of two to five grains with fresh ginger; it helps to expel mucus from the larynx. A paste of the seeds mixed with the juice of fresh ginger is applied to the chest of children having acute bronchial catarrh. The paste is also used locally in colic and flatulence. To relieve headache the pulverized seeds are used as snuff.

49. BAUHINIA VARIEGATA LINN.

Family: *Leguminosae*

Local Names: kanchan, kanchanara.

English Name: Variegated Bauhinia.

Description: A small medium-sized tree, shedding all its leaves at the same time; young shoots clothed with brown pubescence. Leaves stalked, 4-6 in. long, many nerved, slightly leathery, deeply divided. Flowers in short racemes at the end of a branch or in the axil of a leaf, fragrant; petals all white or four petals pale purple, the fifth darker with purple veins. Pods

6-12 in. long, about 1 in. broad, flat, slightly curved, hard, smooth; seeds 10-15.

Distribution: Throughout India and Pakistan.

Uses: The bark is alterative, tonic, blood purifier, anthelmintic and astringent; its decoction is given in scrofula, ulcers, syphilis, leprosy and other skin diseases; it is an efficient wash for skin diseases. An emulsion of the bark made with rice water is given with a little ginger in scrofulous enlargement of the gland of the neck. It is useful in diarrhoea and liver complaints. A poultice of the bark, flowers and roots made with rice water is applied to promote suppuration.

A decoction of the root is a valuable drink for reducing corpulence.

50. BERBERIS ARISTATA DC. (53)

Family: *Berberidaceae*

Local Names: daruharidra, kashmal, rasaut.

English Name: Indian Barberry.

Uses: The wood, root-bark and the plant extract (*rasaut*) are alterative, deobstruent, astringent, antiperiodic and diaphoretic. They are as valuable as quinine in malarial fevers; they are particularly useful in relieving pyrexia and checking the return of paroxysms of intermittent fevers; the bark and the root-bark are given as a decoction or an infusion; the infusion is given in doses of one and a half to three ounces two or three times a day; the decoction is given in doses of six ounces between paroxysms of fever. The decoction is efficacious as a wash for ulcers, sores etc. as it helps cicatrization.

Rasaut is also known as *rasanjana* or *Rusot Febri*: this is the common name for the extract from any species of *Berberis*. It is used as a purgative for children, blood purifier, alterative, tonic, deobstruent and febrifuge; it is given in fevers, menorrhagia, diarrhoea, jaundice and skin diseases; generally it is given in doses of two to four grains; but as a febrifuge it is given in half drachm doses and in bleeding piles in doses of five to 15 grains with butter. Externally *rasaut* is chiefly used for eye diseases; mixed with milk it is used as an eye lotion in conjunc-

tivitis. A watery solution of *rasaut* is used for washing piles, oriental sores and glandular swellings.

The chief constituent of the plant is berberine, a bitter alkaloid.

51. BERBERIS ASIATICA ROXB. EX DC.

Family: *Berberidaceae*

Local Names: daruharidra, kashmal, rasaut.

English Names: Indian Barberry, Ophthalmic Barberry, Tree Turmeric.

Description: An erect, stout shrub, about 8 ft. high; previous year's branches yellowish brown or grayish yellow, angular; spines small. Leaves elliptic to ovate oblong, margins usually with distant spinous teeth, 1-3 in. long, leathery when mature. Flowers in racemes with 10-25 branches, sessile, bright red at first, finally bluish purple. Berries purple or black with distinct styles.

Distribution: Temperate Himalayas and the Nilgiris.

Uses: This species of *Berberis* has the same medicinal uses as *B. aristata.*

52. BERBERIS VULGARIS LINN.

Family: *Berberidaceae*

Local Names: ambarbaris, bedana, kashmal.

English Names: Jaundice Berry, Maider Berry.

Description: An erect shrub, bark brown; wood yellow. Leaves in tufts of 10, having branched spines at the base, stalked, thin, ovate, 1½-2½ in. long, teeth small, spiny, numerous. Flowers in short stalked, simple, drooping racemes, yellow. Berries oblong-ovoid, red.

Distribution: Temperate Himalayas from Kashmir to Nepal.

Uses: The bark of the stem and root is tonic, cathartic, diuretic, febrifuge, antibilious and antiseptic; it is particularly useful as a bitter tonic in dyspepsia, jaundice and other liver disorders, general debility, biliousness, diarrhoea and menor-

rhagia; the pulverized bark is given several times a day in doses of one-fourth of a teaspoonful; the fluid extract is given in half to one drachm doses. As a purgative it is used in large doses. A decoction of the bark is a mouth-wash for aphthous condition of the mouth and a lotion for skin eruptions.

The leaves are antiscorbutic. A decoction of the leaves is given in dysentery, sore throat, scurvy and angina.

The berries contain citric and malic acids. They are astringent, antiscorbutic and cholagogal; their juice is given in haemorrhage, inflammatory and malignant fevers especially typhus and typhoid, bilious disorders, diarrhoea and scurvy; the juice is given in doses of 30 to 60 grains.

53. BOERHAAVIA DIFFUSA LINN.

Family: *Nyctaginaceae*

Local Names: punarnava, rakta punarnava.

English Names: Hog Weed, Pig Weed.

Description: A spreading herb with a stout root-stock and many erect or spreading branches. Leaves in unequal pairs, ovate or oblong or roundish, smooth above, white with hairs below, margin wavy and red, up to 2 in. long, about 1 in. broad, stalks about 1 in. long. Flowers in small clusters or umbels, pink or red. Fruit oval, viscid, glandular on the ribs.

Distribution: Throughout India and Pakistan.

Uses: The active principle of the herb is the alkaloid punarnavine.

An infusion of the herb is given to children as a mild laxative and febrifuge; it is an efficacious emmenagogue; in mild cases of dropsy the boiled fresh herb is given; a liquid extract of the fresh or dry plant, in doses of one to four drachms, is an effective diuretic in oedema and dropsy; a decoction of the herb taken every hour in doses of a wineglassful is equally effective as a diuretic.

The leaf juice is given in jaundice and other liver complaints. The juice with honey is applied to the eyes in chronic ophthalmia.

Medicinally the most important part of the herb is the root;

it is diuretic, laxative, stomachic, diaphoretic and anthelmintic; as a diuretic the root is particularly useful in diseases of the heart and kidneys, in gonorrhoea and dropsy; it is also given in oedema, anaemia, intestinal colic, cough and pleurisy. A powder of the root is given in doses of 30 grains three times a day. In small doses the root is an expectorant and antispasmodic in asthma; in large doses it is an emetic. As a dressing for oedematous swellings a paste of the root is useful; its hot poultice is applied to ulcers, abscesses and similar skin diseases; it is also used for extracting guinea-worms.

54. BORASSUS FIABELLIFER LINN. (59)

Family: *Palmae*

Local Names: tad, tala.

English Names: Fan Palm, Palmyra Palm, Toddy Palm.

Uses: The leaf juice checks hiccup and relieves gastric catarrh. An extract of the green leaves is given in secondary syphilis. The light brown, downy bloom on the base of the leaves is a styptic for superficial wounds.

The root is restorative, diuretic and anthelmintic. Its decoction is given in gonorrhoea and respiratory diseases.

The ash of the dry flowering stalk is given as an antacid in heartburn. It is also used for bilious affections and enlarged liver and spleen.

The juice of the fresh fruit is refrigerant. The milky fluid from unripe fruits checks hiccup and nausea. The pulp of the ripe fruit is applied in skin diseases.

Toddy, the fresh sweetish juice flowing from cuts made on the flowering stalk, is cooling, stimulant, antiphlegmatic and antiphlogistic; if taken regularly it acts as a laxative; it is given in dropsy, inflammatory affections and gastric catarrh; it is used as a diuretic in gonorrhoea and as a tonic in emaciation and phthisis. The slightly fermented juice is given in diabetes and chronic gonorrhoea and with aromatics in phthisis. A poultice of the fresh juice made with rice is allowed to ferment and then applied to gangrenous and indolent ulcers, carbuncles and other skin diseases.

Palm sugar prepared from toddy is used as an antidote in poisoning; it is antibilious and alterative; it is given in disorders of the liver and gleet.

55. BOSWELLIA SERRATA ROXB. (60)

Family: *Burseraceae*

Local Names: salai, sallaki.

English Names: Incense Tree, Indian Olibanum Tree.

Uses: The gum resin or olibanum that exudes from the trunk is a stimulant, expectorant, diuretic, diaphoretic, astringent and stomachic; it is prescribed in chronic lung diseases, diarrhoea, dysentery, dyspepsia, pulmonary diseases, amenorrhoea, dysmenorrhoea, gonorrhoea, syphilitic affections, piles and liver disorders; it is given in doses of five to 40 grains; taken with gum acacia it is a corrective for foul breath; to reduce obesity the gum resin is taken in one ounce doses for a long period. The oil extracted from the gum resin is given in doses of 10 to 20 minims with demulcent drinks in gonorrhoea. A paste made of the gum resin with cocoanut oil or lemon juice is applied to sores, syphilitic ulcers, indolent swellings, sprains, dislocations, carbuncles, boils, ringworm, sore nipples etc. As a fumigatory the gum resin is useful in fevers, laryngitis and broncorrhoea.

56. BRUNELLA VULGARIS LINN.

Family: *Labiatae*

Local Names: dharu, ustekhadus.

English Names: Brunel, Pimpernal, West Indian Sumach.

Description: A perennial herb, stem bristly; root-stock creeping. Leaves hairy. Flowers in whorls of 6; bracts with sharp pointed tips and purple coloured margins; corolla purple blue, at times white, 2-lipped; upper lip erect, hooded; lower lip spreading. Fruit of 4 smooth nutlets.

Distribution: Temperate Himalayas and the hills of South India.

Uses: The herb is stimulant, expectorant, astringent, car-

minative and antispasmodic; it is given in haemorrhage, diarrhoea and relaxed throat; its infusion is given with honey for sore throat and ulcerated mouth; it is also used as a mouth-wash; for internal bleeding piles an enema of the infusion is given. For relief of painful external piles warm oil coated leaves are applied to the rectum.

57. BRYOPHYLLUM PINNATUM KURZ.

Family: *Crassulaceae*

Local Names: asthibhaksha, ghamari, zakhm-e-hayata.

English Names: Air Plant, Life Plant.

Description: A succulent perennial; stem erect, hollow, red up to 4 ft. high. Leaves usually simple, fleshy, opposite, stalked, 3-6 in. long; crenated and dark-edged. Flowers in large terminal panicles, pendulous, cylindric; calyx tubular, persistent, inflated, green tinged with red; spotted white; corolla tubular, green, tinged with red. Follicles 4, enclosed within the dry calyx and corolla.

Distribution: Throughout India and Pakistan.

Uses: The leaf juice is given in diarrhoea, dysentery, calculous affections and cholera in doses of 45 to 180 grains mixed with twice its quantity of butter. The leaves are styptic, astringent and antiseptic; they are slightly toasted before they are applied to contused and unhealthy wounds, bruises, boils, fresh cuts, ulcers, bites of venomous insects etc.; by their application swelling and discolouration are prevented, incised wounds heal rapidly and irritation is allayed; the fresh juice is styptic.

58. BUTEA MONOSPERMA KUNTZ. (63)

Family: *Leguminosae*

Local Names: dhak, palas.

English Names: Bengal Kino Tree, Flame of the Forest.

Uses: The leaves are astringent, diuretic, tonic and aphrodisiac. They are given in diarrhoea, heartburn, sweating of phthisis, diabetes, flatulent colic, piles and worms; the leaves

induce a fall in the amount of blood sugar and so are given in glycosuria; their infusion or decoction is given as a rectal enema in diarrhoea and dysentery, as a vaginal douche in leucorrhoea and as a mouth-wash for septic and congested throat. The fresh juice is useful in phthisis, haemorrhagic affections, diarrhoea, dysentery and fevers. A hot poultice of the leaves is applied to disperse boils, pimples, tumourous piles, ulcers, buboes, swellings etc. In retention of urine the pubic region is fomented with the leaves.

A weak decoction of the bark is given for cold, cough and catarrh. The bark chewed with sugar candy relieves abnormal thirst.

The flowers have the same uses as the leaves.

The seeds contain moodooga oil; they, especially the fresh seeds, are a powerful anthelmintic for roundworms; 10 to 20 grains of the seeds with honey are given thrice a day for three days; on the fourth day a dose of castor oil is given. A decoction of the seeds is given with nitre in gravel complaints. A paste of the seeds is applied on ringworm; the pulverized seeds are used for killing maggots in wounds and sores; the powder is also a rubefacient.

Bengal kino or Butea gum is the gum that exudes from the trunk; it is rich in gallic and tannic acids; being astringent it is a useful substitute for the true kino; its action is mild and so it is suitable particularly for children and delicate women suffering from diarrhoea and dysentery; it is given in doses of five to 30 grains with a few grains of aromatics; in large doses of 30 to 40 grains the gum is given in phthisis and bleeding from the stomach and bladder. A solution of the gum is applied to bruises, erysipelatous inflammations, ringworm etc.

59. CAESALPINIA CRISTA LAM.

Family: *Leguminosae*

Local Names: kat-karanja, putikaranj.

English Names: Bonduc Nut, Fever Nut, Physic Nut.

Description: A straggling, thorny shrub. Leaves with large leafy, branched, basal appendages; main leaf axis armed with

stout, sharp, recurved spines, divided into 4-8 pairs of secondary branches; leaflets about 10 pairs, elliptic-oblong, slightly hairy, tip pointed, 1-2 in, long having a pair of short spines. Flowers in racemes, each with a bract; calyx rusty; corolla yellow. Pods clothed with wiry prickles, ovate or oblong, inflated, 2-3½ in. long, 1-2 in. broad; seeds 1-3, hard, grey, shining.

Distribution: Bengal, Maharashtra and Kerala.

Uses: The tender leaves are deobstruent, emmanagogue, astringent, febrifuge in intermittent fevers and anthelmintic; the oil expressed from the leaves is given in nervous complaints like convulsions and palsy. The tender leaves are applied to relieve toothache. Castor oil coated roasted leaves are applied as a thick dressing over hydrocele, orchitis, inflamed piles and other inflammatory swellings.

The roots are a febrifuge, anthelmintic and astringent; they are given in leucorrhoea and blennorrhagia. The root-bark, in 10 grain doses, is used as an antiperiodic in the milder form of remittent fevers.

The seeds are astringent and antipyrectic; they are given in fevers particularly in simple remittent and intermittent fevers, asthma, colic, general debility etc.; the dose recommended is 10 to 30 grains with an equal quantity of black pepper; one decorticated seed taken with a clove or two relieves pain of colic and checks vomitting. The seeds are a specific for hydrocele; their powder is taken in doses of two or eight grains and the powder, spread on castor leaves, is locally applied. The roasted seeds, in doses of 10 to 15 grains, is prescribed in leprosy, consumption and asthma. Thirty grains of seeds fried in *ghee* are given with one egg twice a day in acute orchitis, ovaritis and scrofula. An ointment made of the roasted seeds with castor oil is a useful local application for hydrocele, acute orchitis, glandular swellings, inflamed piles etc.

The seeds contain a fixed oil; it is used as an embrocation in rheumatism, as a cosmetic for removing freckles from the face and as an emollient in otitis. The oil is given in nervous complaints such as convulsions, palsy etc.

60. CALENDULA OFFICINALIS LINN.

Family: *Compositae*

Local Names: aklelumulk, saldbargh, zergul.

English Names: African Marigold, Calendula.

Description: An annual herb, hairy. Lower leaves strap shaped, margins entire; upper leaves base surrounding the stem, margins toothed. Flower heads solitary, large; stalks stout; flowers of the outer whorls flat, spreading, colour varying from light yellow to deep orange. Fruit curved, lower part having sharp points, not beaked, upper part crested, scarcely beaked.

Distribution: Throughout India and Pakistan.

Uses: The herb is a bitter tonic, diaphoretic, antiemetic and anthelmintic; its infusion is given in doses of a tablespoonful. The herb is a valuable vulnerary; its infusion is applied over varicose veins and chronic ulcers.

The leaves are given as a vegetable to children suffering from scrofula; their juice relieves costiveness. A powder of the leaves is used as snuff to induce discharge of mucus; the leaf juice is applied to remove warts.

The flowers, especially those on the periphery of the flower head, are used for relief of pain from bruises, sprains, insect bites etc.; a lotion of the flowers is a useful wash after surgical operations and for inflamed and sore eyes.

61. CALOPHYLLUM INOPHYLLUM LINN. (69)

Family: *Guttiferae*.

Local Names: punnaga, sultana champa.

English Names: Alexandrian Laurel, Dillo Oil Tree.

Uses: The leaves soaked in water are used for sore eyes; they are used as snuff for relief of vertigo and migraine.

The bark is astringent; it is given in internal haemorrhages; its juice is a strong purgative; its decoction is a useful wash for indolent ulcers; its paste is applied in orchitis.

The gum resin from the stem and branches is emetic, purgative, anodyne, vulnerary and resolvent.

The fixed oil extracted from the kernels is known as Laurel Nut oil, Dillo oil, Pinay oil or Poon Seed oil; it is used in gonorrhoea and gleet, as it has a soothing action on the mucous membrane of the genito-urinary organs; it is an efficacious embrocation in rheumatism and gout; it is also used in scabies and other skin diseases. For relief of pain in leprosy the refined oil is injected intramuscularly.

62. CALOTROPIS GIGANTEA R. BR. (71)

Family: *Asclepiadaceae*

Local Names: ak, arka, madar.

English Names: Giant Milk Weed, Swallow Wart

and

63. CALOTROPIS PROCERA R. BR. (72)

Local Names: ak, arka, madar.

English Name: Swallow Wart.

Uses: The leaves are used in dropsy and enlargement of the abdominal viscera; the ash obtained by roasting the leaves with rock salt in a closed vessel is given with buttermilk. An extract of the leaves is prescribed in one to five drop doses in intermittent fevers; it is poisonous in larger doses. The dry leaves are either smoked or the smoke from the burning leaves is inhaled for the cure of asthma and cough. A powder of the leaves is dusted over wounds, ulcers and old sores. The oil in which the leaves have been boiled is a useful dressing for paralyzed parts. A poultice of the slightly roasted leaves is applied to inflammatory swellings; rheumatic joints etc.; a fomentation with the leaves relieves pain in the chest and cures tympanitis; a decoction of the leaves and pods is used for extracting guinea-worms. The leaf juice is applied to aphthous sores in the mouth of children and skin diseases.

The root-bark is a cholagogue, diaphoretic, emetic, alterative and diuretic; in small doses of three to ten grains, three times

a day, it is given as an alterative; in large doses of 50 to 60 grains as an emetic; it is commonly used in secondary syphilis, spasmodic diseases, leucoderma, incipient leprosy, chronic rheumatism etc. A paste of the charcoal prepared from the roots, made with some bland oil, is applied over skin diseases caused by syphilis, leprosy etc.; a paste of the root-bark made with rice vinegar or sour gruel is a useful dressing for elephantiasis of the legs and scrotum.

The milky juice of the plant is used in leprosy, taenia, dropsy, rheumatism etc.; it is known as vegetable mercury because of its usefulness in typhus and syphilis; it is an efficient substitute for ipecacuanha. As an abortifacient it is either taken internally or applied to the mouth of the uterus. The dried latex is antispasmodic, alterative and nervine tonic.

The latex is commonly used for ringworm of the scalp, for relief of painful joints and swellings, for removing piles and as a depilatory; in aphthous condition of the mouth the juice is used with honey; it relieves pain of carious teeth.

The flowers are tonic, stomachic and digestive; they are given in small doses in cough, cold, asthma, etc. In doses of one to two grains the dried flowers are given in leprosy, secondary syphilis and gonorrhoea.

64. CANNABIS SATIVA LINN. (75)

Family: *Cannabinaceae.*

Local Names: bhang, charas, ganja, hashish, subzee, vijaya.

English Name: Indian Hemp.

Uses: The plant is a narcotic inebrient.

The leaves are sedative, anodyne, narcotic, antispasmodic, diuretic, digestive and astringent; as a sedative and anodyne they are given in doses of 40 grains; in dysentery and diarrhoea half a drachm of the dried leaves are given with sugar and black pepper; the leaves are administered to induce sleep where opium cannot be used; they are also used in tetanus and dysmenorrhoea. A paste of the fresh leaves is used to resolve tumours; their juice removes dandruff and head lice; their powder is a useful dressing for wounds and sores; a poultice of the

leaves is applied to the eyes in ophthalmia and other diseases, to piles and orchitis.

The preparation made from specially dried leaves and flowers, known as *bhang* or *hashish,* is given in dyspepsia, gonorrhoea and bowel complaints and as an appetizer and nervine stimulant.

The dried pistillate flowering tops which are coated with a resinous exudation are known as *ganja;* the smoke from burning *ganja* is swallowed as an antidote to poisoning by orpiment; the smoke is passed through the rectum for relief of strangulated hernia and griping pains of dysentery; *ganja* is one of the best anodynes, hypnotics and antispasmodics; it is given in one-fourth to two grain doses. It is locally used to relieve pain in itching skin diseases.

Charas, the resinous exudation that collects on the leaves and flowering tops of plants, is the active principle of hemp; it is, like the leaves, a valuable narcotic; it is of great value in malarial and periodical headaches, migraine, acute mania, insanity, delirium, whooping cough, cough of phthisis, asthma, anaemia of brain, nervous vomiting, tetanus, convulsions, nervous exhaustion and dysuria; it is also used as an anaesthetic in dysmenorrhoea, as an appetizer, as an aphrodisiac, and as an anodyne in eczema, neuralgia, severe pains etc.; it is usually given in one-sixth to one-fourth grain doses.

The seeds are not narcotic; their infusion is given in gonorrhoea.

65. CARDIOSPERMUM HALICACABUM LINN.

Family: *Sapindaceae*

Local Names: jyotishmati, karnasphota.

English Names: Baloon Vine, Black Liquorice, Heart Seed.

Description: A small, delicate, wiry, smooth, climber; leaves alternate, ternate, smooth; leaflets coarsely toothed. Flowers bisexual and unisexual, ternate, white, small, irregular; lowest pair of flower stalks converted into spiral tendrils. Capsules membranous, depressed, pear shaped, inflated, 3-angled, winged

at the angles; seeds 3, roundish, black with a large, white heart shaped spot.

Distribution: Common throughout India and Pakistan.

Uses: The juice of the plant is used as an emmenagogue in amenorrhoea; and as a demulcent in gonorrhoea and pulmonary diseases; the plant is also anthelmintic and antiblennorhagic. The plant juice is used as ear drops in earache and in discharge from the meatus.

The leaves are stimulant and diuretic; their infusion is given in skin eruptions; their powder is given in pulmonary complaints. Fried leaves are applied to the pubes in amenorrhoea; in dysentery and diarrhoea an infusion of the leaves is injected through the rectum; leaves coated with castor oil are applied as a rubefacient on rheumatic joints, swellings, tumours etc.; a paste of the leaves is a dressing for syphilitic sores and wounds; the crushed leaves are inhaled to relieve headache.

The root is mucilaginous; it is diaphoretic, emetic, laxative, stomachic, rubefacient and emmenagogue; it is given in bleeding piles, amenorrhoea, gonorrhoea, rheumatism, nervous diseases, erysipelas and worms; its decoction is given in half a teacupful doses twice a day.

The seeds are a tonic in fever; and a diaphoretic in rheumatism.

66. CARICA PAPAYA LINN. (79)

Family: *Caricaceae*

Local Names: papaya, papeeta.

English Names: Papaw Tree, Papaya.

Uses: The leaves are anthelmintic and febrifuge; they are given in beri-beri; they contain the alkaloid carpaine which physiologically has the same effect as digitalis; it is a potent amoebicide and is very efficacious for the treatment of amoebic dysentery. Lightly bruised roasted leaves are applied as a galactagogue to breasts of nursing mothers; an application of hot leaves relieves pains; a poultice of the leaves is applied for reducing elephantoid growths; a paste made with one ounce of the leaves and 60 grains each of opium and common salt is an

efficacious local application for extracting guinea-worms; the fresh leaves are a useful dressing for foul wounds.

The ripe fruit is alterative, cholagogue, stomachic, appetizing, digestive and antiscorbutic; it is given in piles and enlarged liver and spleen; the ripe fruit is eaten regularly for habitual constipation and chronic diarrhoea.

The unripe fruit is a mild laxative and diuretic; the cooked unripe fruit is eaten as a galactagogue; the unripe fruit is an abortifacient; five to 20 grains of the mature green fruit are given for relief of dyspepsia.

The milky juice of the unripe fruit contains the digestive ferment papain; it is a powerful anthelmintic for roundworms; a tablespoonful each of the fresh juice and honey mixed with three to four tablespoonfuls of hot water is taken by an adult; this dose is followed two hours later by a dose of castor oil; this treatment may be repeated for two days, if necessary; for children seven to ten years of age half the above dose is prescribed; a teaspoonful for children under three is sufficient. The milky juice is digestive, stomachic and emmenagogue; it should not be given to expectant mothers; it is efficacious in stomach disorders and enlargement of the liver and spleen; one-third of a teaspoonful of the juice with sugar is taken three times in the course of a day. The juice being an irritant is applied to swellings to prevent suppuration, to the mouth of the uterus to induce abortion, and to corns, warts, pimples, horny excrescences of the skin and other skin diseases; the juice, as a cosmetic, removes freckles and makes the skin smooth and delicate.

The seeds contain the glucocide caricin; they are anthelmintic, emmenagogue and carminative; for expelling roundworms they are given with honey; their juice is given in dyspepsia, bleeding piles and enlargement of the liver and spleen. Pessaries made with the juice are used as an abortifacient; a paste of the seeds is applied to skin diseases like ringworm.

The roots are abortifacient; a vaginal douche of a mixture of a paste of the roots, salt and water is given.

67. CARTHAMUS TINCTORIUS LINN. (82)

Family: *Compositae*

Local Names: kardai, kusum, kusumbha.

English Names: Bastard Saffron, Safflower.

Uses: The flowers are tonic, stimulant, sedative, emmenagogue, laxative and diaphoretic. Their cold infusion is a household remedy in children's ailments, such as measles, fevers, eruptions etc. As an emmenagogue they are given in dysmenorrhoea; and as a tonic in paralysis. Dried flowers in doses of a drachm are given in jaundice; as a diaphoretic in jaundice, nasal catarrh and muscular rheumatism a hot infusion is given.

A decoction of the powdered seeds is a mild laxative; the seeds are diuretic and tonic. A poultice of the seeds is used to bring down the inflammation of the womb after childbirth. The oil expressed from the seeds is a mild laxative; it is locally used as a dressing for foul ulcers and as a liniment in rheumatism.

A medicated oil prepared by boiling the whole plant in sesame oil is applied to itch, chronic ulcers, rheumatic and painful joints and paralytic limbs.

68. CASSIA ALATA LINN.

Family: *Leguminosae*

Local Names: dadmurdan, dadrughna.

English Name: Ringworm Shrub.

Description: A large shrub; stems erect, thick, with fine downy branches. Leaves almost sessile, 1-2 ft. long, leaflets in 8-14 pairs, 2-6 in. long, having minute sharp points, leathery, broadly rounded, oblique at the base. Flowers large, yellow; racemes narrow, ½-1 ft. long; stalks narrowly winged; bracts large membranous. Pods winged, membranous, straight, 4-8 in. long, very narrow, many seeded.

Distribution: Common in India and Pakistan.

Uses: The leaves are tonic, purgative, expectorant, aperient, astringent and antiparasitic; in bronchitis and asthma a decoc-

tion of the leaves is given many times a day; as a purgative an infusion or decoction of the dried leaves is used; a strong decoction is used to hasten labour; it also acts as an abortifacient; the leaf juice with the addition of lime juice is given as an anthelmintic. As the leaves contain chrysophanic acid they are highly antiparasitic; either their juice or their paste or their ointment made with vaselin or lanolin is a recognised remedy for ringworm, herpes and other parasitic skin diseases, insect bites etc.; the addition of lime juice or common salt or oil to the juice or the paste increases their efficacy. A poultice of the leaves applied to boils hastens their coming to a head. A decoction of the leaves is a good mouth-wash.

69. CASSIA ANGUSTIFOLIA VAHL.

Family: *Leguminosae.*

Local Names: bhumiari, senna, sunna makhi.

English Names: Indian Senna, Tinnevelly Senna.

Description: A bushy herbaceous plant. Leaves having 5-8 pairs of leaflets; basal appendages awl shaped, spreading or reflexed. Flowers in racemes. Pods broadly oblong, slightly curved; valves papery, smooth.

Distribution: Sind, the Punjab, Gujarat and South India.

Uses: Senna leaves are a sure and safe purgative, even for children and weak and elderly persons; they are effective in constipation, biliousness, gout and rheumatism; they are given as an infusion, decoction, powder or confection; one of the best preparations of senna is made by infusing two ounces of the leaves and a drachm of ginger in 20 ounces of water in a covered vessel for 15 minutes; half to one ounce of this infusion is taken with hot milk and sugar; another method of taking the leaves is to infuse overnight a dozen leaves in two ounces of water; the strained liquid is taken in the morning on an empty stomach; the leaves may cause nausea and griping and therefore they should be taken with aromatics; senna is also used as an anthelmintic for intestinal worms and as a mild liver stimulant. Senna should not be given in inflammatory conditions of the alimentary canal, fever, piles, menorrhagia, prolapse of the uterus or rectum and pregnancy. A paste of the dried leaves made

with vinegar is used for certain skin diseases; the paste is also useful for removing pimples.

Senna pods are used as a purgative; but they are milder and slower in action than the leaves; an infusion made of four to 12 pods in eight ounces of water is used for adults; but for children and the aged the infusion should be made of three to six pods.

70. CASSIA AURICULATA LINN. (85)

Family: *Leguminosae*

Local Names: charmaranga, tarota, tarwar.

English Name: Tanner's Cassia.

Uses: The plant is given in chylous urine as a diuretic and in diabetes with excellent results; either its powder with honey is given or its decoction.

An infusion of the leaves makes a cooling drink.

The bark is highly astringent; it is a valuable substitute for tannic acid or oak bark; it is also used as an alterative.

A decoction of flowers and flower buds is an excellent remedy for diabetes, they are also used as pessaries to check an excessive menstrual flow.

The seeds are refrigerant and attenuant; an electuary made of the seeds is administered in doses of a small teaspoonful twice a day. Their fine powder is a valuable remedy for purulent ophthalmia; the fine powder is blown into the affected eyes or an ointment made with cocoanut oil or sesame oil is applied. The seeds are also given in diabetes in the same way as the flowers.

The roots are astringent; their decoction is given as an alterative.

71. CASSIA FISTULA LINN. (86)

Family: *Leguminosae.*

Local Names: amaltas, argvadh, gurmala.

English Names: Golden Shower, Indian Laburnum, Purging Cassia.

Uses: The leaves are emolient; their juice or their paste is a useful dressing for ringworm and chilblains, for relieving irrita tion caused by marking nut juice and for relief of dropsical swellings; for relief of rheumatism and facial paralysis the leaves are rubbed into the affected parts.

The pulp from the pods is of great therapeutic value; it is a mild, pleasant and safe purgative, even for children and expectant mothers; two drachms of the pulp is given with an equal quantity of sugar or tamarind to adults; as a purgative one to two ounces are required; but this quantity may cause colic, nausea and flatulence; therefore it is generally used in combination with other drugs; its confection is given in diabetes. The pulp is applied round the navel of a child suffering from flatulence to cause evacuation; mixed with linseed or almond oil it is used locally for the removal of intestinal obstructions.

The root is a tonic, febrifuge and a strong purgative; an alcoholic extract of the root-bark is used for black water fever and as a substitute for the extract prepared from *Cassia beareana*.

72. CASSIA SOPHERA LINN.

Family: *Leguminosae*.

Local Names: kasamardda, kasunda.

English Name: Senna Sophera.

Description: A diffuse, smooth undershrub. Leaves pinnate, leaf-stalk having one large gland; leaflets 5-10 pairs, lanceolate, about 1 in. long. Flowers yellow. Pods turgid, having alternate swellings and constrictions, margins thickened, about 1 in. long, many seeded.

Distribution: Throughout India and Pakistan.

Uses: The plant is expectorant, depurative and alterative; its decoction is used as an expectorant in acute bronchitis.

The leaves are purgative, the dose being 90 grains. A drink made of the leaves with sugar and water is given in jaundice; their decoction is useful in fever and gout; in subacute stages of gonorrhoea their infusion is given orally and also injected into the diseased organs; the infusion is administered in rheumatic and inflammatory fevers, in skin diseases and as an

anthelmintic; it is useful as a wash for syphilitic sores. A paste of the leaves and root-bark made with honey is a useful application in skin diseases like ringworm, ulcers etc.

The bark is catarthic; its infusion is given in diabetes.

The seeds are catarthic; they are given with honey in diabetes. A paste made of the seeds with sulphur is applied in skin diseases.

73. CASSIA TORA LINN.

Family: *Leguminosae.*

Local Names: chakunda, chakramarda, prapunnada.

...English Name: Foetid Cassia.

Description: An annual shrub. Leaves pinnate with glands between the leaflets; leaflets 3 pairs, obovate. Flowers small, yellow, in axillary pairs. Pods slender, very long, 4-sided, curved, sharply pointed.

Distribution: Throughout India and Pakistan.

Uses: The leaves are antiperiodic, aperient, alterative and anthelmintic; they are generally given to children having intestinal disorders; their decoction is a mild laxative in doses of two ounces, especially for children having fever while teething; they are given in skin diseases as an alterative. A poultice of the leaves is applied to boils to force them to come to a head; it is also locally used in gout, sciatica and pains in the joints; they and the seeds contain chrysophanic acid and so are very valuable for the treatment of skin diseases like ringworm, scabies, eczema etc.; the leaf juice is applied as an emollient to inflammation caused by marking nut.

A paste of the roots made with lime juice is a specific remedy for ringworm.

The seeds are a tonic and stomachic; but they are particularly used externally in skin diseases; they contain chrysophanic acid and so have the same uses in skin diseases as the leaves; a paste made with curds is applied over the affected parts.

74. CEIBA PENTANDRA GAERTN. (89)

Family: *Bombacaceae.*

Local Names: hattian, katan, sveta salmali.
English Names: Kapok Tree, White Silk Cotton Tree.

Uses: The leaves are given in gonorrhoea. Externally they are used as an emollient; for relief of fever and headache the face and the head of the patient are bathed with a decoction of the leaves.

The bark is emetic, diuretic, astringent and febrifuge.

A decoction or infusion of the flowers is used as a laxative and also as a demulcent.

The unripe pods are astringent, demulcent and emollient; they are prescribed in vertigo and migraine.

The roots are stimulant and tonic; in large doses they are emetic; their juice is valued as a cure for diabetes; the tap-root of young plants is given in chronic dystentry and gonorrhoea.

The gum, *hattian gond* or *mocharas,* that exudes from the trunk, is of great medicinal value; it contains gallic and tannic acids; it is astringent and styptic; it is used as a tonic, alterative and aphrodisiac; it is given in bowel complaints and menorrhagia; 20 to 30 grains of the gum are given to children in diarrhoea.

75. CENTELLA ASIATICA URBAN. *

Family: *Umbelliferae.*

Local Names: brahma-manduki, brahmi.

English Name: Indian Pennywort.

Description: A common, trailing herb, rooting at the nodes. Leaves many at each node, kidney-shaped, about 2 in. long, shallow, toothed, palmately nerved; stalks 3-6 in. long, channeled. Flowers in clusters of umbels, each cluster bearing 3 or 4 small flowers, reddish. Fruit minute.

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* This plant has often been mistaken for *Hydrocotyl asiatica* Linn.

Distribution: Common throughout India and Pakistan.

Uses: The herb contains the volatile principle vellarine; the weed is altertive, tonic, diuretic, antiphlogistic, aperient, blood purifier and local stimulant; it is a household remedy for skin diseases, like chronic and obstinate eczema, chronic ulcers, syphilitic sores etc., enlargement of glands, chronic rheumatism, chronic nervous diseases, amenorrhoea and piles; it is generally given as a decoction, in doses of one to two ounces, or as a powder in doses of three to 10 grains, three times a day; in large doses the herb is a stupefying narcotic or an irritant poison. The juice extracted from the fresh plant or from the dried plant with the addition of water is an efficacious local application for elephantiasis of the scrotum, legs etc., diseases of cellular tissues, bruises, inflammations and swellings; to check fever associated with these diseases the juice is also taken three times a day in doses of one to five drops. In syphilis, scrofula and leprosy a powder of the plant is given in doses of three to five grains; the powder or a poultice of the fresh leaves is also applied on the affected parts.

The leaves are a household remedy in early stages of dysentery of children; three to four leaves are administered with cumin and sugar; a paste of the leaves is also applied to the navel. To rectify stuttering one or two leaves are eaten every morning. An infusion of the leaves is given with the addition of fenugreek, in doses of half a teacupful, to children having bowel complaints. The leaves are a useful remedy in syphilis, leprosy, skin diseases, fever, bowel complaints, rheumatism and nervousness; a powder of the leaves dried in the shade is given in doses of five to 10 grains three times a day to adults; for children the dose is one to four grains. The powder is given with milk in small doses in mental weakness and to improve memory. The fresh juice mixed with milk and liquorice is administered as an alterative tonic in gonorrhoea, jaundice and fevers; this mixture is useful for children in skin diseases and for improving the blood and the nervous system.

In skin eruptions and syphilitic ulcers a fine powder of the dried leaves is used as a dust; a poultice of the fresh leaves or an ointment made of one drachm of the leaf juice with one ounce of lanoline is equally efficacious; this ointment is of great

value in elephantiasis, enlarged scrotum and diseases of the cellular tissues.

76. CINNAMOMUM ZEYLANICUM BREYN. (95)

Family: *Lauraceae*

Local Names: bojewar, dalchini, taj, tamalapatra.
English Names: Ceylon Cinnamon, Cinnamon.
Uses: The bark is aromatic, cordial, astringent, carminative and stimulant; it is given in diarrhoea, flatulence, nausea, vomiting, spasmodic affections of the bowels, gastric irritation, paralysis of the tongue, toothache, menorrhagia and in tedious labour caused by defective uterine contractions; it is given as a powder, infusion or decoction. It is a common adjunct to bitter tonics, purgatives and astringents. A paste made of the bark is applied to the temples to get relief from neuralgic pains and severe headaches.

Three kinds of oil are extracted from the tree. The oil from the bark is the common essential oil of cinnamon; it is brown and viscid. The oil from the leaves contains 70-80 per cent eugenol; it has the odour of clove oil and is often known as clove oil. The oil from the root is of yellow colour and lighter than water; it has a strong camphoraceous smell. The essential oil from the bark is used as a stimulant in amenorrhoea and other diseases; as an antiseptic it is injected in the child-bearing organs and urinary tract in gonorrhoea and is given in typhoid fever; it is a useful application in neuralgia and headache. The oil from the leaves is a useful liniment in rheumatic pains, headache and toothache; it is also used to perfume the breath and to strengthen the gums.

77. CISSAMPELOS PAREIRA LINN.

Family: *Menispermaceae.*

Local Names: padh, path.

English Names: Ice Vine, Pareira Brava.

Description: A leafy, hairy climber. Leaves alternate, globular, cordate or kidney shaped, 1½-4 in. in diam. Flowers

greenish, dioecious; male inflorescence hairy, many flowered, 1-2 in. long cyme; female inflorescence a receme with large kidney shaped or globular bracts. Drupes globose, hairy, scarlet, very small.

Distribution: Throughout India and Pakistan.

Uses: The dried stems and roots contain the alkaloid bebeerine or pelosine.

The dried roots are a mild tonic, diuretic, stomachic, antilithic, alterative and astringent; they are given with aromatics in later stages of bowel complaints, dyspepsia, diarrhoea (especially infantile diarrhoea), dropsy, catarrhal disorders, prolapse of the uterus, internal inflammations and urinary and bladder diseases; the roots are a good substitute for pareira (*Cissampelos glaberrima*) in nephritis; the roots have an astringent and sedative action on the mucous membranes of the genito-urinary organs; they are also used as an anti-emmenagogue. They are given as an infusion in doses of one to three ounces. As a blood purifier in skin diseases and syphilis a dilute decoction of the roots is used.

A paste of the roots and leaves is locally applied in skin diseases.

78. CITRULLUS COLOCYNTHIS SCHRAD.

Family: *Cucurbitaceae.*

Local Names: indravaruni, indrayan.

English Name: Colocynth.

Description: A large, rough plant. Stems diffuse or creeping, slender, angled, hairy; tendrils simple or 2-fid, hairy. Leaves very variable in size, usually triangular in shape, pale green above, ashy beneath, 5-7 lobed. Flowers monoecious. Fruits globular, 3-4 in. in diam., variegated green and white, when ripe filled with a dry spongy bitter pulp; seeds pale brown.

Distribution: Throughout India and Pakistan.

Uses: The root is bitter, pungent, cooling, cathartic, anthelmintic, antipyretic, carminative; it is given in dropsy, tumours, leucoderma, asthma, bronchitis, jaundice, urinary discharges, enlargement of the spleen and liver, tuberculous glands of the neck, constipation, anaemia, elephantiasis, bronchitis, rheumat-

ism etc.; in jaundice the root is given with *gur;* in rheumatism 180 grains of a mixture of equal parts of the root, long pepper and *gur* are taken daily; for internal inflammations, tumours etc. a powder of the root is given for three days in doses of 45 grains well mixed with castor oil. A paste of the roots is applied to the enlarged abdomen of children, boils, tumours, pimples, cysts etc.; as a lactifuge a thick paste of the roots is applied to the painful and inflamed breasts of a nursing mother.

The dried pulp of a fully grown unripe fruit is the colocynth of commerce; it is a drastic hydragogue purgative.

79. CLEOME ICOSANDRA LINN.*

Family: *Capparidaceae.*

Local Names: hurhur, kanphutya, tilparni.

English Name: Wild Mustard.

Description: An annual herbaceous weed, 1-3 ft. high, erect; stems covered with stalked, viscous glands, striated. Leaves digitate; leaflets 3-5, hairy. Flowers in racemes. Capsules thin, glandular, 2-3 in. long, narrow at both ends, striated, 2-valved; seeds kidney-shaped, wrinkled, dark brown, oily.

Distribution: Throughout India and Pakistan.

Uses: To relieve flatulence and dyspepsia the leaves are eaten as a vegetable. The fresh juice of the leaves is a rubefacient and vesicant; mixed with some warm bland oil the juice is a household remedy in ear diseases; the juice is used as a dressing over fresh wounds and sores; the leaves are applied over boils as a resolvent and for preventing suppuration.

The seeds are anthelmintic (especially for roundworms), carminative, stimulant and astringent; as an anthelmintic the dose for adults is half to one drachm of the powdered seeds with sugar twice a day for two days, followed by a dose of castor oil the following day; half this quantity is required for children. The seeds are rubefacient and vesicant like mustard seeds; a poultice of the seeds is applied to chronic painful joints and to boils to bring them to a head; a watery paste of the

* Since the publication of the first edition of this book the name *Cleome viscosa* Linn. has been changed to *C. icosandra* Linn.

seeds with a little asafoetida is useful for killing head lice; an infusion of the seeds is used for washing maggot infested wounds and sores.

80. CLERODENDRUM INERME GAERTN.*

Family: *Verbenaceae.*

Local Names: kundali, sangkupi.

English Names: Garden Quinine, Petit Fever Leaves.

Description: A weak, straggling, strong scented shrub. Leaves up to 2 in. long, 1½ in. broad, smooth, obovate, elliptic or roundish, opposite or arranged in threes, entire or deeply notched at the apex. Flowers in axillary panicles, white, corolla tube 1-1½in. long; stamens very long, purple. Drupes dry, brown, 4-grooved.

Distribution: Throughout India and Pakistan near the sea.

Uses: The fresh juice of leaves is an alterative in scrofulous and venereal diseases; it is given in doses of a tablespoonful; the leaves have the same properties as chiretta and quinine; they are used as a febrifuge in remittent and intermittent fevers; the juice of fresh leaves is given in doses of one-fourth to half an ounce; an infusion or decoction of the dried leaves is given in half to one ounce doses with the addition of aromatics. Hot, oil-coated leaves make a good dressing over fresh wounds; a poultice of the leaves resolves buboes.

The roots are febrifugal like the leaves. Boiled in oil the roots are used as an embrocation in rheumatism.

81. CLERODENDRUM INFORTUNATUM LINN.

Family: *Verbenaceae.*

Local Names: bhandira, harhichuda, khant.

Description: A large shrub or a small tree, clothed with brownish hairs; branches 4-angled. Leaves round ovate to

* Since the publication of the first edition of this book the generic name *Clerodendron* has been changed to *Clerodendrum*.

broad oblong, hairy, up to 10 in. long, 8 in. broad. Flowers in large, terminal, erect panicles; calyx persistent; corolla white or tinged red. Drupe black, enclosed wholly by the enlarged, red calyx.

Distribution: Throughout India and Pakistan.

Uses: The leaves are a bitter tonic, antiperiodic, anthelmintic, laxative and cholagogue; in malaria their juice is given, in place of chiretta, in doses of one to two ounces. Their fresh juice or decoction is given as a rectal enema for killing ascaris.

The root relieves congestion and torpidity of the bowels; in piles it is given in doses of 10 to 15 grains with water. It is locally used over boils and certain skin diseases.

82. CLITORIA TERNATEA LINN.

Family: *Leguminosae.*

Local Names: aparajita, gokarni.

English Names: Butterfly Pea, Winged-leaved Clitoria.

Description: A beautiful climber. Leaves pinnate; leaflets 5-7, ovate. Flowers solitary, bright blue, the standard having orange or white centre. Pods linear oblong, straight, thin; seeds many, globose or compressed.

Distribution: Common throughout India and Pakistan.

Uses: A mixture of the juice of the leaves and of green ginger is given to check excessive perspiration of hectic fever; the leaf juice mixed with common salt is applied as a warm dressing over swollen glands round the ear and to relieve earache; an infusion of the leaves is a useful wash for ulcers.

The roots are cathartic, diuretic, demulcent and vermifuge; they promote nausea and vomiting; six drachms of their juice are given with cold milk in chronic bronchitis to help expectoration; an alcoholic extract of the root, in doses of five to 10 grains, is useful in ascites and enlargement of the abdominal viscera. For relief of hemicrania the juice of the root, especially of the white-flowered variety, is blown up the nose. The root-bark is diuretic, demulcent and laxative; the powder of the dry root is given in doses of 10 to 30 grains; its infusion is used in gonorrhoea and irritation of the bladder and urethra.

The seeds are cathartic and aperient; to children having colic or constipation a powder of the roasted seeds is given in doses of one drachm; this powder is given in ascites and enlargement of the abdominal viscera in doses of 30 to 60 grains.

83. COCOS NUCIFERA LINN. (97)

Family: *Palmae*

Local Names: narikel, nariyel.

English Names: Cocoanut Palm, Porcupine Wood.

Uses: The downy substance found on the lower parts of the leaves is a valuable styptic.

The ash of the bark of the stem is an antiseptic and dentifrice; it is used for scabies and toothache.

The root is a valuable diuretic; it is given in uterine diseases, gleet, bronchitis, liver complaints, dysentery and blenorrhagia; it is given in the form of a decoction; the young roots are astringent; their infusion or decoction is used as a gargle in sore throat.

The freshly tapped juice from the flower-stalk is refrigerant and diuretic; the fermented juice is laxative; it is particularly useful for delicate persons who are habitually constipated; toddy poultice, prepared by mixing the freshly drawn juice with rice flour and gently heating the mixture, is applied to gangrenous and indolent ulcers and carbuncles with very good results.

The young nuts are astringent; they are useful in sore throat of children; the liquid inside these tender fruits is refrigerant; it is given in thirst, fever and urinary disorders; it is a blood purifier and also checks vomiting, even in those case where other remedies have failed; an excessive use of this liquid is liable to cause strangury. The milky juice expressed from the pulp of the immature nut is nutritive, anthelmintic and diuretic; it is given in malnutrition, general debility, incipient phthisis, thirst, fevers and urinary disorders; the meat of the nut is a vermifuge, especially for tapeworm; the grated meat of one nut is taken followed by a dose of castor oil. The liquid present in ripe nut is highly diuretic and so should be taken only in small doses.

The oil extracted from the flesh of the ripe nut is used as a substitute for cod liver oil; it is given in wasting and pulmonary diseases of children; at first the oil is given in doses of 20 to 30 minims three times a day; the dose is gradually increased to one drachm. The oil is an effective dressing for burns and scalds and is an efficacious hair oil. As it penetrates the skin readily it is of great value in the preparation of ointments.

The tar-like fluid obtained from the red hot shell of a ripe nut is a rubefacient; it is a household remedy for ringworm, itch and other skin diseases.

84. COMMIPHORA MUKUL ENGL.

Family: *Burseraceae.*

Local Names: guggal, guggulu.

English Name: Indian Bdellium.

Description: A small thorny plant, 4 to 6 ft. high; trunk knotty; outer bark greenish yellow; each branch ends in a sharp spine. Leaves alternate, simple or 3-foliate; margin smooth, shining. Flowers unisexual or bisexual, few, solitary or in clusters, calyx tubular, glandular; petals 4. Drupe fleshy, roundish.

Distribution: Pakistan and many parts of India.

Uses: The oleo-gum-resin that exudes from the tree is the Indian bdellium, the guggal of the Indian materia medica; its properties approximate closely to copaiba, cubebs and myrrh; it is a bitter stomachic, carminative, demulcent, astringent, aperient, antiseptic, diaphoretic, diuretic and expectorant; it is prescribed as an uterine stimulant and emmanagogue; it is particularly useful in amenorrhoea and menorrhagia; in large doses it is given in leucorrhoea. As an intestinal disinfectant it is useful in chronic catarrh of the bowels, chronic colitis, diarrhoea and tubercular ulceration of the bowels; as an expectorant it is valuable in pulmonary tuberculosis; it is given in bronchitis, whooping cough, pneumonia, rheumatism, neuralgia, skin diseases and diseases of the genito-urinary organs.

As a mouth-wash and gargle a solution of the gum is useful for spongy gums, chronic tonsilitis, pharyngitis, ulcerated throat, pyorrhoea and carious teeth. The gum has anti-suppurative

properties; it is therefore, mixed with cocoanut oil, applied to ulcers and wounds.

Fumes from the burning gum are inhaled in hay fever, acute nasal catarrh, chronic laryngitis, bronchitis and phthisis.

85. CORCHORUS CAPSULARIS LINN.

Family: *Tiliaceae.*

Local Names: kalshak, narcha.

English Names: Jute Plant, White Jute.

Description: An annual herb; stems straight, smooth, cylindrical, tall, upper part branched. Leaves light green, thin, narrow pointed, toothed, two lowermost teeth prolonged into long, narrow filaments. Flowers yellow. Capsules short, globose, flattened at the top, wrinkled, ribbed, 5-valved; seeds few in each valve, without transverse partitions.

Distribution: In many parts of India and Pakistan.

Uses: This plant is medicinally used in the same way as *Corchorus olitorius.*

86. CORCHORUS OLITORIUS LINN.

Family: *Tiliaceae.*

Local Names: kost, mahachanchu, pat.

English Names: Jew's Mallow, Jute Plant.

Description: A herbaceous, annual, erect, several feet high plant; stems smooth, cylindrical, branched. Leaves ovate or lanceolate, 2-4 in. long, 1-2 in. broad, toothed, the two lowest teeth prolonged into long, curved bristles, veins on the under surface hairy; leaf-stalks hairy, short. Flowers solitary or upto 3 on short, thick stalks, small, yellow. Capsules cylindric, 10-ribbed, erect, 2-3 in. long, 5-valved, with 5 terminal blunt points; seeds numerous.

Distribution: Widely spread in India and Pakistan.

Uses: The leaves are demulcent, bitter tonic, stomachic, laxative, carminative, antiperiodic, anthelmintic, astringent and intestinal antiseptic. An infusion of the dried leaves with the

addition of coriander and aniseed is a simple bitter; it is commonly used as a stomachic tonic; an infusion of the leaves is a popular remedy in fevers, bilious troubles, worms in children, dysentery, liver disorders, intestinal colic, gastric catarrh, skin diseases and disorders of the digestive system; in dysentery the dried leaves are taken with rice.

A decoction of the dried roots and unripe capsules, is given in diarrhoea. The capsules are prescribed in diseases of the bladder. A paste of the capsules is applied over swellings and abscesses.

The finely combed fibres, being highly absorptive, are made into antiseptic surgical dressings.

87. CORDIA DICHOTOMA FORST f. (99)

Family: *Boraginaceae.*

Local Names: bahuvaraka, baragund, lasora.

English Names: Indian Cherry, Sebestan.

Uses: The bark is a mild tonic and astringent; its juice mixed with cocoanut milk is given to relieve colicky pain; an infusion of the bark is used as a gargle.

The berries are mucilaginous; they are useful as a demulcent; they are given in cough and diseases of the chest, uterus, urethra, etc.; as a laxative 10 to 12 drachms of the pulp of the fruit are given.

88. CORIANDRUM SATIVUM LINN.

Family: *Umbelliferae*

Local Names: dhania, kothimbir.

English Name: Coriander.

Description: A smooth, erect annual, up to 18 in, high, giving out an unpleasant odour when crushed. Leaves alternate, pinnately divided; leaflets of the lower leaves broadly ovate, lobed, toothed; of the upper leaves linear. Flowers in branched umbels, very small, white. Fruit spherical.

Distribution: Cultivated throughout India and Pakistan.

Uses: A strong decoction of the herb is given with milk and sugar for the cure of bleeding piles. A poultice of the herb is a cooling application in headache; its juice is used as a dressing to soothe the irritation and inflammation caused by marking nut; its paste mixed with barley meal is applied to indolent swellings.

The fruit is aromatic, stimulant, carminative, antispasmodic, corrective, diuretic, aphrodisiac and refrigerant. A decoction of the dried fruit is given in flatulent colic and bleeding piles; its infusion is used as an eye-wash in conjunctivitis.

The volatile oil distilled from the fruit is given in doses of one to four minims in flatulent colic, rheumatism and neuralgia.

A poultice of the seeds is applied to chronic ulcers and carbuncles; its watery paste is used as a gargle for the cure of ulceration of the mouth and throat.

89. CRATAEVA NURVALA BUCH-HAM. * (101)

Family: *Capparidaceae*.

Local Names: barna, varuna.

English Name: Garlic Pear.

Uses: The leaves are aromatic, bitter, stomachic, tonic, febrifuge, antipyretic, sedative and demulcent; their juice, in doses of 90 to 550 grains, is given with milk and *ghee* in rheumatism; they are used as a vegetable in neuralgic pains, paralysis, chronic rheumatism etc. As a tonic their infusion is given in doses of two to four fluid ounces three times daily. A paste of the fresh leaves made with hot water is superior to a paste of mustard seeds and flour as a rubefacient and vesicant in gouty and rheumatic swellings, swelling of the feet, and in all cases where a mustard poultice is used. The leaves are smoked in caries of the nasal bones, the smoke being exhaled through the nose.

The bark is demulcent, antipyretic, alterative, tonic, cholagogue, lithontriptic and sedative; it is particularly useful in disorders of the urinary system, fevers, gastric irritation and vomit-

* Since the publication of the first edition of this book the name *Crataeva religiosa* Forst. has been changed to *C. nurvala* Buch-Ham.

ing; its decoction is given in doses of two ounces twice or thrice a day; for the treatment of calculous affections *gur* is added to the decoction; the decoction is also useful in mild forms of skin diseases as a substitute for sarsaparilla. The bland oil in which the bark or the root has been boiled is a useful embrocation in rheumatism.

The root-bark is a rubefacient and vesicant; it is a valuable lithontriptic; it is used in the form of a decoction.

90. CRINUM ASIATICUM LINN.

Family: *Amaryllidaceae.*

Local Names: kanwal, nagadamani.

English Name: Poison Bulb.

Description: A stout herb; root-stock bulbous. Leaves fleshy, 3-4 ft. long, 5-7 in. wide. Inflorescence an umbel, provided with 2 spathaceous bracts; stalk compressed, solid, 1½-2 ft. long; flowers numerous, large, white, perianth salver-shaped, lobes 6, linear; stamens 6, often reddish; bracteoles linear.

Distribution: Throughout India and Pakistan.

Uses: The bruised hot leaves, coated with castor oil or mustard oil, are applied to whitlows, inflamed ends of toes and fingers, inflamed joints and sprains. The warm leaf juice with the addition of a little common salt is used for ear complaints. The juice can be used as an emetic in place of ipecacuanha.

The bulb contains the alkaloid narcissine. The fresh bulb is a good substitute for ipecacuanha; it is bitter, tonic, laxative, emetic, nauseant and diaphoretic; it is used in biliousness and urinary complaints; as an emetic the juice of the bulb is given in doses of two to four fluid ounces, repeated every 20 minutes till vomiting is produced; instead of the juice an infusion or syrup of the bulb can be used; two to four drachms of the infusion are given at short intervals till the desired result is produced; two fluid drachms of the syrup are given as often as necessary; the syrup is particularly useful for children; if the dried bulb is to be used the quantity is to be twice that of the fresh bulb. The roasted bulb is used as a rubefacient in rheumatism.

91 CROCUS SATIVUS LINN. (102)

Family: *Iridaceae.*

Local Names: kesar, kunkuma.

English Names: Meadow Crocus, Saffron Crocus.

Uses: The stigmas of the flowers, the saffron of commerce, are of medicinal value; they contain the bitter principle picrocrocin; saffron is a mild stimulant, stomachic, carminative, antispasmodic, nerve sedative, mild narcotic, diuretic and emmenagogue; in small doses it is a mild stimulant; in large doses it is an aphrodisiac and narcotic; it is a popular remedy for promoting menstruation or for soothing lumbar pains which accompany menstruation; it is also generally used in fevers, hysteria, melancholia, spasms, whooping cough, enlargement of the liver, flatulent colic, asthma, dysmenorrhoea, leucorrhoea, piles and catarrhal ailments of children; it is given in doses of one and a half to 30 grains; in large doses it is an abortifacient. A paste of saffron is used as a dressing for bruises, superficial sores, rheumatic and neuralgic pains and congestion of the chest; pessaries of saffron are used in painful complaints of the uterus.

92. CROTON TIGLIUM LINN.

Family: *Euphorbiaceae.*

Local Names: brudanti, jamalgota, jayapala.

English Name: Purging Croton.

Description: A small evergreen tree. Leaves ovate, elliptic or oblong, narrow pointed, 2-4 in. long, stalked, membrancous, toothed, varying in colour from metallic green to bronze and orange, yellowish when dry, with or without minute glands on the under surface; leaf-stalk 1-2 in. long, slender. Flowers in racemes 2-3 in. long; stalks of male flowers having stellate hairs; female flowers without petals. Capsules up to 1 in. long, white, ovoid.

Distribution: Assam, Bengal and in moist forests of the Western Ghauts.

Uses: All parts of the plant possess drastic purgative properties.

The wood, medicinally known as lignum pavanae, is, in small quantities, diuretic, mildly emetic and powerfully diaphoretic.

The pulverized root is a drastic purgative; it is given in dropsy in 10 to 30 grains doses; it is also used as an abortifacient.

The seeds and the oil extracted from them are drastic purgatives; they contain dangerous toxic and purgative properties and therefore they can be used internally only after extracting the poison; this is done by first removing the testa and the embryo from the seed and then boiling the kernel two or three times in milk; not more than one or two of these specially treated kernels should be given; in overdoses even these are an acronarcotic poison; these specially prepared seeds are given in apoplexy, insanity, convulsions, obstinate constipation, intestinal worms, ascites, dropsy, enlargement of the abdominal viscera, tympanites, colic, calculous affections and gout; in very minute doses these seeds are given with an infusion of fresh ginger to children suffering from whooping cough. As the seeds are irritant and rubefacient their paste mixed with honey is applied over tumours and obstinate buboes.

The oil extracted from the seeds is a drastic hydragogue purgative; it is particularly given when a rapid and efficient action is necessary and when the effectual dose has to be minute, as in apoplexy, tetanus, insanity, unconsciousness, paralysis of the throat, strangulated hernia, diseases of the nervous centre, lead poisoning and dropsy. This oil should not be generally used and should not be administered in inflammatory conditions of the intestines; the oil is given in doses of a drop or two on a lump of sugar; if it causes ill effects, such as griping, vomiting, excessive purging, a good long drink of lime juice, repeatedly taken, is an excellent antidote.

Externally the oil is a stimulant and a powerful irritant and rubefacient; it is used as a liniment and a good stimulant embrocation in infantile bronchitis, asthma, paralysis, gout, chronic rheumatism, arthritis, indolent tumours, laryngitis, neuralgia, sciatica, tinea tonsurans of the scalp, erysipelas and diseases of the joints; the liniment is made by mixing one part of croton oil with seven to 10 parts of a bland oil.

93. CUMINUM CYMINUM LINN.

Family: *Umbelliferae*

Local Names: jeera, jeeraka, safed zira.

English Name: Cumin Seeds.

Description: A glabrous, annual herb, 1-3 ft. high; root long, slender, perpendicular; stem arising almost from the base; branches forked. Basal leaves slender, short stalked, feathery, divided into very slender lobes which run parallel to the main axis, soon falling off; upper leaves similar, having short, sheathing, winged stalks. Flowers in large, long stalked branched umbels; secondary umbels 1-6, short, few flowered; flowers very small. Capsules cylindric.

Distribution: Many parts of India and Pakistan.

Uses: The fruit is a rich source of thymol; it is a stomachic, diuretic, carminative, stimulant, astringent and emmenagogue; it is commonly prescribed in dyspepsia, diarrhoea and hoarseness of voice; the dose recommended is 10 to 30 grains; with lime juice the fruit is given to pregnant women for checking bilious nausea; for promoting secretion of milk cumin seeds are given shortly after childbirth. To relieve hiccup they, mixed with *ghee*, are smoked in a pipe. A poultice of the fruit is a resolvent of swellings of the breasts and testicles.

Cumin water, the water left over after the essential oil and thymol have been extracted by steam distillation, is carminative; it is given in flatulence and griping.

94. CURCULIGO ORCHIOIDES GAERTN.

Family: *Amaryllidaceae*

Local Names: kalimusli, mushali.

English Name: Black Musale.

Description: Root-stock stout, with fleshy root fibres. Leaves linear, plaited, channelled, membranous, glabrous or sparsely softly hairy, up to 12 in. long, base sheathing. Flowers star-like, bright yellow on short, clavate scape; distichous, the lowest bisexual, the upper male. Capsules 1-4 seeded, with a slender beak.

Distribution: Bengal, Assam, and Western Peninsula.

Uses: The root-stock is alterative, appetizing, aphrodisiac, fattening, carminative, demulcent, diuretic, vulnerary, tonic and antipyretic; it is useful in piles, biliousness, diseases of the blood, bronchitis, ophthalmia, diarrhoea, lumbago, gonorrhoea, gleet, pains in the joints, asthma, colic etc.; for dysentery and diarrhoea a powder of the root-stock is taken with buttermilk or rice water; as an aphrodisiac the powder is given with sugar and *ghee*; to remove stone from the urinary system the powder is very efficacious; the powder is usually taken in doses of 45 to 90 grains.

95. CURCUMA LONGA LINN. (104)*

Family: *Zingiberaceae.*

Local Names: halad, haldi, hardra manjal.

English Name: Turmeric.

Uses: The rhizome is a household remedy; it is aromatic, stimulant, tonic and carminative; for relief of catarrhal cough a decoction of the fresh rhizome is given with coriander and cinnamon; a favourite household remedy for cold is milk boiled with turmeric and sugar; turmeric is given in diarrhoea, intermittent fevers, dropsy, jaundice, liver disorders and urinary diseases; as an anthelmintic the fresh juice is used; 30 to 40 grains of the dried rhizome are given in bronchitis; turmeric with the juice of *amla* (*Emblica officinalis*) is prescribed for diabetes and jaundice; 15 to 20 grains of turmeric powder are given twice a day in flatulence and in the weak state of digestion.

Turmeric is commonly used for cleansing foul ulcers; a paste of turmeric made with the addition of quick lime or alum is an excellent dressing for sprains, bruises, contused wounds, black eye, inflammatory affections of the joints etc.; turmeric is a valuable styptic; its lotion or paste is applied to smallpox and chicken-pox eruptions to promote scab formation; its de-

*Since the publication of the first edition of this book the name *Curcuma domestica* Val. has been changed to *C. longa* Linn.

coction is an efficacious eye-wash in catarrhal and purulent ophthalmia; its paste is usually used as a dressing for ringworm, obstinate itching, eczema and other parasitic skin diseases. A mixture of one part of pulverized turmeric and 20 parts of alum is very efficacious in chronic purulent discharge from the ear; inhalation of the fumes from burning turmeric is recommended in nasal catarrh and in hysterical fits.

96. CURCUMA ZEDOARIA ROASC. (105)

Family: *Zingiberaceae*

Local Names: gandhmul, kachur, karchur.

English Names: Long Zedoary, Zedoary.

Distribution: Eastern Himalayas, North-east India and Kanara.

Uses: The juice of leaves is given in dropsy. Their paste is locally used in lymphangitis.

The rhizome is a blood purifier, carminative, stomachic, demulcent, expectorant, diuretic, stimulant and aromatic; the rhizome is given in flatulence, dyspepsia and as a corrective of purgatives in doses of about one drachm; its decoction with the addition of long pepper, cinnamon and honey is a household remedy for fever, cold, cough and bronchitis; the rhizome is also used to check leucorrhoeal and gonorrhoeal discharges. It is chewed for improving the sticky taste of the mouth, for clearing the throat and soothing the irritation in the upper part of the wind pipe. A paste of the rhizome made with alum is applied to sprains and bruises.

97. CUSCUTA REFLEXA ROXB.

Family: *Convolvulaceae*

Local Names: akasvela, amarvela.

English Name: Dodder.

Description: Leafless, twining parasite. Stems long, branching; branches fleshy, stout, forming dense, yellow masses on the host. Flowers solitary or in clusters; flower stalks short,

curved, often warty. Bracts small, fleshy. Corolla white, lobes triangular, bent back. Fruit small, globose, depressed. Seeds 2-4, large.

Distribution: Throughout India and Pakistan.

Uses: The plant is alterative, purgative, astringent and anthelmintic. Its decoction made with aromatics is given in protracted fevers, flatulence, induration of liver, bilious disorders and diarrhoea. Its infusion is used as a wash for sores and itch.

The seeds are carminative and alterative; their infusion is given as a depurative and stomachic. A poultice of the seeds is applied as an anodyne.

98. CYMBOPOGON CITRATUS STAPF.

Family: *Graminae*

Local Names: bhustrina, ghandhtrina.
English Name: Lemon Grass.

Description: A perennial, densely tufted, aromatic, tall grass. Stem underground, short, oblique, with ringed segments. Leaves in dense clusters, coarse, linear, terminating in a long, bristly point, firm, glaucous green; leaf blades 3 ft. long or more, ½ in. broad; leaf bases cylindrical, tightly clasping each other, up to a foot long, smooth, slightly leathery, cinnamon coloured on the inside. Flowers in nodding, branched panicles.

Distribution: Throughout India and Pakistan.

Uses: The grass is generally used in the form of an infusion; it is a valuable stomachic for children; with aromatics it is given as a diaphoretic and stimulant in catarrh and febrile conditions; with black pepper the infusion is used in congestive and neuralgic forms of dysmenorrhoea, disordered menstruation, vomiting, diarrhoea and dropsical condition caused by malaria. A decoction of the grass is used locally over rheumatic joints, lumbago and sprains.

A tea made from the leaves is a stomachic tonic, diaphoretic, diuretic and refrigerant. A paste of the leaves made with buttermilk is applied on ringworm.

Lemon Grass Oil or Oil of Verbena is the essential oil distilled from the leaves; it is carminative, antispasmodic stimulant and diaphoretic; it is very efficacious in flatulence, spasmodic affections of the bowels, gastric irritability and cholera; it is given in doses of three to six drops with sugar or as an emulsion.

The oil mixed with twice its bulk of cocoanut oil is a stimulating embrocation for rheumatism, lumbago, neuralgia, sprains and other painful affections; in chronic cases the undiluted oil may be used; the oil is a rubefacient and is used for ringworm.

99. CYNODON DACTYLON PERS.

Family: *Graminae*

Local Names: dhub, durva, kali ghas.

English Names: Bahama Grass, Bermuda Grass, Dhub Grass.

Description: A perennial, glabrous grass; stems slender, creeping, rooting at the nodes, developing matted tufts, with short erect branches. Leaves 1-4 in. long, very narrow, flat, glaucous, arranged in two rows; sheaths with or without hairs, tight. Inflorescence consisting of 2-6 spikes radiating from a slender green or purplish stalk; stalks of the spikes slender, compressed or angular.

Distribution: Throughout India and Pakistan.

Uses: The grass is diuretic, astringent and styptic; it is used in dropsy, haematuria and vomiting; as an astringent its juice is given in chronic diarrhoea and dysentery; the juice is also given in hysteria and insanity; an infusion of the grass with milk is prescribed for bleeding piles, irritation of the urinary organs and vomiting. The fresh juice of the herb or its paste checks bleeding from the nose and fresh cuts and wounds; it is also used locally in gout and rheumatism.

A decoction of the roots is diuretic; it is given in vesical calculus, secondary syphilis, irritation of the bladder, bleeding piles and dropsy. Two drachms of the roots with curds are prescribed for chronic gleet.

100. CYPERUS ROTUNDUS LINN. (106)

Family: *Cyperaceae*

Local Names: musta, mustaka, nagar motha.
English Name: Nut Grass.
Uses: The bulbous roots are pungent, aromatic, acrid, diaphoretic, diuretic, astringent, anthelmintic, vulnerary, stomachic, emmenagogue and lithontriptic. Twenty grains of the scraped roots with ginger and honey are given in gastric and intestinal disorders and for correcting stomach disorders; an infusion of the roots is administered in diarrhoea, dysentery, ascites, dyspepsia, vomiting, cholera and fevers, especially continuous fevers; as an anthelmintic the roots are given for roundworms in large doses. A poultice of the fresh roots is applied to the breasts of nursing mothers to promote the flow of milk; the poultice is also used over wounds, sores and ulcers.

101. DATURA INNOXIA MILL.

Syn. D. metel auctt. (non Linn.)
Family: *Solanaceae*

Local Names: dhastur, dhatura, svet dhatur, unmat.
English Names: Apple of Peru, Green Thorn Apple.
Description: This exogenous species is very similar to the indigenous species, *Datura metel* Linn; the former is distinguished from the latter by the presence of dense pubescence on the stem and leaves, 10-toothed corolla and long weak spines on the capsules.
Distribution: This plant, originally a native of Mexico, is now found throughout India and Pakistan.
Uses: This exogenous plant has the same medicinal uses as the Asiatic species, *D. metel* Linn., described below.

102. DATURA METEL LINN.

Family: *Solanaceae*

Local Names: dhastur, dhatura, svet dhatur, unmat.
English Names: Apple of Peru, Green Thorn Apple.
Description: Plant herbaceous, covered with fine, minute

hairs, branches in pairs. Leaves triangular ovate, unequal sided at the base, pointed at the apex. Flowers large, single, double or triple, one corolla arising from another; corolla funnel shaped, usually white. Fruit drooping, roundish, tubercled or covered with rigid, sharp prickles, seated on the persistent, enlarged basal part of the calyx; opening through irregular cracks on its walls; fruit stalk short, thick, curved to one side; seeds numerous, light brown, flat.

Distribution: Throughout India and Pakistan.

Uses: There are many varieties of this plant; all of them have the same medicinal properties; however the purple variety is considered more valuable. All parts of the weed are strongly intoxicant, narcotic, aphrodisiac, toxic, antispasmodic and anodynous; their properties are similar to those of belladonna. The young leaves and seeds contain the drugs hyoscine, hyoscyamine and atropine.

The young leaves are antispasmodic, anodynous and narcotic; the dried leaves and stems are smoked as an antispasmodic in asthma, whooping cough, bronchitis, etc.; at first 10 to 20 grains are smoked; this quantity is gradually increased to 30 grains; when the smoking of leaves is ineffective dried seeds are smoked; an inhalation of the smoke from burning leaves is similarly used. The juice of leaves with curdled milk is given in gonorrhoea. A poultice of the leaves is a popular remedy for rheumatic swellings of the joints, lumbago, painful tumours, glandular inflammation, ingrowing toe nails, burns, neuralgic pains, etc.; the poultice is made with equal quantities of fresh leaves and rice flour mixed with a little water; in place of the poultice an application of the leaves soaked in alcohol or of a hot infusion of the leaves is equally efficacious; the poultice is also applied on the pubic region to relieve pain during difficult menstruation and to inflamed breasts as an anodyne and for checking excessive flow of milk. Fresh leaf juice is a popular local application for pains, swellings, mumps, gout, rheumatism and inflamed breasts; the juice boiled with some bland oil is a useful dressing for skin diseases of the head and running sores. The bland oil in which the leaves have been boiled is a useful liniment for rheumatic and other pains of the body; it is also a dressing for piles, fissures and other diseases of the rectum leading to tenesmus. Roasted leaves applied to enlarg-

ed testicles, ingrowing toe nails, burns, boils and the rheumatic sciatic nerve give great relief.

The juice of the fruits is a useful dressing for the scalp to check dandruff and falling of the hair; their paste made with turmeric is applied to inflamed breasts.

The seeds are astringent, antispasmodic, narcotic, anodynous, powerfully intoxicating, aphrodisiac, bitter, carminative and stomachic; however they are chiefly used locally; their paste is used on decaying teeth, piles, fistula, tumours, abscesses, urticaria and parasitic skin diseases.

103. DIOSPYROS PEREGRINA (Gaertn.) Gurke (115)*

Family: *Ebeneceae*

Local Names: gab, tendu, tinduk.

English Name: Wild Mangosteen.

Uses: The bark is a useful astringent; its infusion or decoction is given in chronic dysentery and diarrhoea, haemorrhage from internal organs and intermittent fevers. A poultice of the bark is applied to boils and tumours; a decoction of the bark mixed with *ghee* is a very efficacious dressing for burns.

A powder of the root-bark or its decoction is given in dysentery, gonorrhoea and cough.

Like the bark the fruit is also highly astringent and is similarly used for dysentery and diarrhoea; an extract of the fruit juice prepared by evaporating it on a water bath to dryness is an excellent remedy for chronic diarrhoea and dysentery; this extract can be preserved; it is given in doses of one to five grains with water three times a day. A watery solution of the extract is a valuable vaginal douche in leucorrhoea. The fruit juice is an efficacious styptic. An infusion of the fruit or bark is an efficacious gargle in aphthae, stomatitis and sore

*Since the publication of the first edition of this book, the name *Diospyros embryopteris* Pers. has been changed to *D. peregrina* (Gaertn.) Gurke.

throat. In asthma the dried rind of the fruit is smoked in doses of 45 grains.

104. DIPTEROCARPUS TURBINATUS GAERTN. (119)

Family: *Dipterocarpaceae*

Local Names: gurgun, teli gurgun.

English Name: Common Gurgun Tree.

Uses: The oleo-resin obtained from the trunk of the tree is known as gurgan balsam, gurjan-ka-teil and Wood Oil; it is stimulant, diuretic, alterative and demulcent; it is a useful substitute for copaiba as an expectorant; it is very efficacious in diseases of the genito-urinary organs, such as gonorrhoea, gleet etc.; as a palliative it is given in leprosy; in chronic bronchitis it is given in doses of half to two drachms in one ounce of malt three times a day. An emulsion made with one part of the balsam and three parts of lime water is a useful dressing for skin diseases such as ringworm, indolent ulcers etc.

The essential oil extracted from the balsam is an efficacious remedy for gonorrhoea, gleet, leucorrhoea and other vaginal discharges, leprosy and certain skin diseases; about a teaspoonful of the oil mixed with either some omum water, rice water or thin gruel is given three times a day or more often as required. An emulsion of the oil made with lime water is rubbed into the parts affected by skin diseases.

105. DOLICHOS BIFLORUS LINN.

Family: *Leguminosae*

Local Names: kulthi, kulaththa.

English Name: Horse Gram.

Description: An annual, twining, downy plant. Leaves 3-foliate; stipules oblong; leaflets lanceolate or oblong, entire, downy. Flowers 1-3; calyx downy; corolla yellow; standard large. Pods large, compressed, recurved, downy; seeds 5-6 compressed, reniform, grey or reddish brown.

Distribution: Throughout India and Pakistan.

Uses: The seed is astringent to the bowels, fattening, anti-

pyretic, diuretic, tonic, anthelmintic, emmenagogue, appetizing and lithontriptic; it is useful in piles, tumours, bronchitis, heart troubles, stones in the kidney, enlargement of the spleen, hiccough, asthma, starngury, leucoderma, abdominal complaints etc.; its decoction is used in leucorrhoea, menstrual disorders, flatulence, cough, eye diseases and urinary diseases; it is given to parturient women to promote lochia; a gruel of the seeds is given in piles; a decoction of the seeds is taken with milk to remove intestinal worms; a decoction of the seeds and black pepper is useful for the cure of enlarged glands of the neck; to check cold sweats a powder of the roasted seeds is given and is also applied to the body.

106. ECLIPTA ALBA HASSK.

Family: *Compositae*

Local Names: bhangra, bhringaraja.

Description: A small, coarsely hairy annual, erect or prostrate. Leaves hairy, variable in shape. Flower heads white, small, axillary or terminal; involucre of bracts large, bell shaped; outer ffowers white, linear, female; inner florets bisexual, tubular.

Distribution: Throughout India and Pakistan.

Uses: The fresh plant is used as a tonic and deobstruent in the enlargement of the liver and spleen and various chronic skin diseases; it is a valuable pectoral and anti-asthmatic; as an alterative it is given in liver disorders; its decoction is given in doses of a teaspoonful twice a day. Its fresh juice is given in doses of a half to two drachms in fevers, dropsy, liver disorders and rheumatism; two drops of the juice with honey are given to new-born babies suffering from catarrh. As an emetic the juice is given in large doses. A paste of the herb mixed with sesame oil is used over glandular swellings, elephantiasis and skin diseases; it is also used for headache, toothache and for dyeing the hair black.

The leaves are tonic and alterative; they are given in cough, headache, alopecia, enlargement of the liver and spleen and jaundice; their juice in combination with aromatics is given in doses of one teaspoonful in fevers, jaundice and other liver dis-

orders; two drops of the leaf juice with eight drops of honey are a household remedy for new born children suffering from catarrh; for catarrhal jaundice a bolus, of the size of a lemon, of fresh leaves mixed with a few pepper corns is given with curds early in the morning for about a week; a decoction of the leaves is given in doses of two to four ounces twice a day in uterine haemorrhages. The fresh juice of the leaves is rubbed into the shaven scalp to promote growth of hair; it is used for cleaning and healing sores; a paste of the leaves is applied to chronic glandular swellings and skin diseases and to wounds as a styptic; for piles a vapour bath of the leaves is recommended.

The roots are given in doses of 180 grains with salt in scalding urine; they are also a purgative and emetic. Their powder is locally used in skin diseases and enlargement of the liver and spleen.

107. ELETTARIA CARDAMOMUM MATON

Family: *Scitaminaceae*

Local Names: chhoti elachi, ela.

English Name: Lesser Cardamom.

Description: Stems upto 7ft. high, lower part covered with spongy sheaths. Leaves almost sessile, 15-30 in. long, 3 in. wide, oblong-lanceolate. Flowers in 15 to 30 in. long panicles; bracts persistent upto 2 in. long. Calyx about 1 in. long; corolla lip white streaked with violet; capsules oblong, about an inch long, having fine vertical ribs. Root-stock branching, woody or fleshy.

Distribution: Western Ghats.

Uses: The seeds are aromatic, masticatory, cooling, pungent, cardiac tonic, stomachic, laxative, diuretic, carminative, abortifacient, emmenagogue and antidotal; they are useful in asthma, bronchitis, piles, strangury, diseases of the bladder, kidneys, liver, uterus, rectum and throat, scabies, headache, earache, and toothache; they create thirst and lessen inflammations; as a diuretic the seeds are given with honey or whey; as a corrective the seeds are administered in flatulence, griping of purgatives and other drugs.

108. EMBELIA RIBES BURM. f.

Family: *Myrsinaceae*

Local Names: vaivarang, vavadinga, vidanga.

English Name: Embelia.

Description: A climbing shrub; stems rough, with conical, hard protuberances. Leaves alternate, papery, elliptic, 2-3 in. long, 1 in. broad, glandular pits on the under surface; stalks slender. Flowers numerous in panicles, white or greenish yellow or greenish white. Fruit small, globose.

Distribution: Throught India and Pakistan.

Uses: A decoction of the young leaves with ginger is a useful mouthwash in sore throat, aphthae and indolent ulcers of the mouth.

In diseases of the chest and lungs rice gruel in which the root-bark has been boiled is given.

The berries are anthelmintic, carminative, stomachic, alterative and tonic; as an anthelmintic they are of great value; for tapeworm they are considered a specific and as efficacious as male fern; they cause no griping as does the male fern; a dessertspoonful of the powdered berries are given with honey to adults twice a day and a teaspoonful to children twice a day; the seeds are equally efficacious; one to four drachms are given with honey or milk; they should be given early in the morning on an empty stomach and no food should be taken the rest of the day; to expel the dead worm a dose of castor oil should be taken the next morning. As an alterative in skin diseases and as a carminative and stomachic in dyspepsia and flatulence a decoction of the berries in one drachm doses is administered; milk which has been boiled with a few berries is easily digested by children and causes no flatulence. A paste of the berries is applied to skin diseases like ringworm; a paste made with butter applied to the head relieves headache.

109. EMBLICA OFFICINALIS GAERTN (124)

Family: *Euphorbiaceae.*

Local Names: amla, amlaka, dhatri.

English Names: Emblic Myrobalan, Indian Gooseberry.

Uses: The most useful part of the tree is the fruit; it is one of the richest sources of vitamin C; the fresh fruit is refrigerant, tonic, antiscorbutic, diuretic and laxative; it is given in doses of one to three drachms; a conserve or sherbet of the fruit is antibilious, diuretic and refrigerant; it is used in fevers, hiccup, vomiting, indigestion, habitual constipation and other disorders of the digestive system; in doses of one to three drachms the fresh fruit is given with honey as an anthelmintic. The dried fruit is an excellent astringent, refrigerant, stomachic, antiscorbutic and blood purifier; it is given in diarrhoea, dysentery and haemorrhage.

A decoction of the dried fruits is an efficacious douche in gonorrhoea; their infusion is an efficacious eye-wash in ophthalmia.

An infusion of the seeds is given in fevers, diabetes, bilious affections and nausea. It is a useful eye-wash in diseases of the eyes; an ointment made of the burnt seeds with some bland oil is applied to scabies and itch.

110. ERVATAMIA CORONARIA STAPF. (125)*

Family: *Apocynaceae.*

Local Names: chandni, taggar.

English Names: East India Rosebay, Nero's Crown.

Uses: The juice of the leaves is a soothing application in ophthalmia, skin irritations and wounds.

The milky juice of the plant is an anthelmintic. Mixed with lime juice the latex is used for removing corneal opacity; it is a soothing dressing for wounds; it prevents inflammation.

The root is anthelmintic. It is a local anodyne; its paste is used in diseases of the eyes, such as corneal opacity, ophthalmia etc.; it is chewed for relief of toothache.

The juice of the flowers mixed with some bland oil is used for sore eyes and inflammation of the cornea.

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* Since the publication of the first edition of this book the name *Ervatamia divaricata* Burkill has been changed to *E. coronaria* Stapf.

111. ERYTHRINA SUBEROSA ROXB. (126)

Family: *Leguminosae.*

Local Names: dholdak, madar, pangra.

Uses: The leaves are anthelmintic, cathartic, galactagogue, emmenagogue and discutient. Their fresh juice, in two ounce doses, with a little honey is an efficacious cathartic and anthelmintic for roundworms, tapeworms and threadworms; to relieve painful and difficult micturition it is given in doses of two to three drachms twice a day; with castor oil it is given in acute or chronic dysentery; as a galactagogue either the juice is given during periods of lactation or the fresh leaves cooked in cocoanut milk are given; at the same time these cooked leaves are applied locally.

The leaf juice is a dressing for ulcers and for maggot infested sores; to relieve toothache it is applied to the gums; a warm poultice of the leaves is used over rheumatic joints and venereal buboes.

The bark is laxative, diuretic, emmenagogue, expectorant, anthelmintic and febrifuge. Its decoction is a useful eye-wash in eye diseases.

112. EUPHORBIA ANTIQUORUM LINN.

Family: *Euphorbiaceae.*

Local Names: thoar, tridhar, tridhari sehund.

English Name: Spurge Cactus.

Description: A variable, fleshy, small tree or shrub; branches jointed, stout, 3- or 5-angled, thorny, with undulating ridges. Leaves small, falling off early. Flowers minute, in yellow clusters.

Distribution: Throughout tropical India and Pakistan.

Uses: The latex is a drastic purgative, powerful emetic and deobstruent; it is given in visceral obstructions, dropsy and pains in the loins; an effective dose is two to three drops of the fresh

juice with a small quantity of parched rice and sugar; as an emetic the juice expressed from the roasted stem is given in teaspoonful doses to children suffering from bronchitis. Pills made of a mixture of the latex and gram flour are given in gonorrhoea.

The latex is acrid; it is a household local application for warts, skin diseases, painful joints, rheumatism and maggot infested wounds.

A powder of the fried stem is dusted over old ulcers; fomentation of whitlow with a hot stem promotes suppuration and discharge of matter.

113. EUPHORBIA NERIIFOLIA LINN.

Family: *Euphorbiaceae*

Local Names: sehund, snuhi, thoar.

Description: A large succulent shrub or a small tree; branches jointed, cylindrical or obscurely 5-angled, fleshy, a pair of spines present on each node; bark reticulated. Leaves few, fleshy, 6 to 12 in. long. Flowers in yellowish or reddish clusters, each cluster having both male and bisexual flowers. Fruit markedly 3-lobed, each lobe containing 1 seed.

Distribution: Throughout the Western Peninsula.

Uses: The leaf juice is a purgative and deobstruent in visceral obstructions and dropsical disorders; the leaves are diuretic.

The latex is a drastic purgative, expectorant, and deobstruent in visceral obstructions and dropsical affections; for relief of asthma a mixture of equal parts of the latex and a syrup is given in doses of 10 to 20 minims three times a day. The latex is a rubefacient; it is locally used over warts and other similar excrescences; it is applied to glandular swellings to prevent suppuration; a salve made of soot and the latex is used in ophthalmia; a mixture of the latex and butter is applied over scabies and ulcers; an ointment made of the latex and turmeric is used over piles; a piece of thread well coated with this ointment is applied as a ligature to external piles; mixed with margosa oil the latex is used as a liniment for arthritic joints, the latex is applied to burns and scalds to prevent formation of blisters.

114. FAGONIA CRETICA LINN.

Family: *Zygophyllaceae*

Local Names: dhanvayas, ustarkhar.

English Name: Cretan Prickly Clover.

Description: A small, woody, very thorny shrub with glandular hairs. Leaves opposite, small, with 2 spines at the base. Flowers solitary, axillary, small, pink coloured. Capsules globular, embedded in a mass of thin spines, deeply 5-lobed; seeds 1 in each lobe, compressed.

Distribution: West Pakistan, the Deccan, Saurashtra, Rajputana and northern India.

Uses: The herb is refrigerant, bitter and astringent tonic and febrifuge; two to four ounces of an infusion of the stem and leaves is given in fevers for quenching thirst, dropsy, delirium, poisoning and vomiting and as a bitter and astringent tonic. For relief of itch and irritability of the skin a bath of the infusion is useful; a paste of the plant is applied to tumours and to scrofulous swellings; as an antiseptic its juice is a dressing for open wounds; a candy made of the juice if allowed to melt in the mouth gives relief in stomatitis.

115. FERONIA LIMONIA SWINGLE (30)

Family: *Rutaceae*.

Local Names: kapittha, kaith, kathbel.

English Name: Wood Apple.

Uses: The leaves are aromatic, carminative and astringent; the juice of young leaves is given with milk and sugar in billiousness and bowel complaints of children; a powder of the leaves is given in half to one drachm doses for the same complaints.

The gum that exudes from the stem is demulcent; it relieves tenesmus in bowel disorders; with honey it is given in diarrhoea and dysentery.

The unripe fruit is astringent and is administered in diarrhoea and dysentery. The ripe fruit is refreshing, aromatic, astringent, antiscorbutic, carminative, digestive, tonic and antido-

tal; it is used as a stomachic and stimulant in diseases of children. Its pulp is given in one to two ounce doses.

116. FERULA NARTHEX BOISS

Family: *Umbelliferae.*

Local Names: hing, hingu.

English Name: Asafoetida.

Description: An unpleasant smelling, herbaceous perennial, 5-8 ft. high. Leaves downy, at least when young, tripartite, entire or irregularly toothed; lower leaves 1-2 ft. long, stalk sheathing the stem. Flowering umbels arising from the sheath of the lower leaves are simple; terminal umbels branched, leafless, large; flowers yellow.

Distribution: Western Baluchistan, Kashmir and Multan.

Uses: The oleo-resin gum that exudes from the root-stock is commercially known as asafoetida; the raw gum is nauseous and therefore only the fried gum is used medicinally; it is carminative, anti-spasmodic, nervine stimulant, digestive, sedative, expectorant, diuretic, anthelmintic and emmenagogue; it is commonly prescribed in flatulent colic, dyspepsia, asthma, hysteria, convulsions, cholera, chronic constipation, chronic bronchitis, whooping cough, cough, spasmodic disorders of the bowels and angina pectoris; the fried gum is administered either as a solution or emulsion or pills, preferably as pills; the dose is five to fifteen grains; the solution is made by well mixing five drachms of the gum with a pint of hot water; the dose of this solution for adults is one to two tablespoonfuls; for children one-fourth to half of this dose is recommended; an emulsion is made by mixing 30 grains of the gum with four ounces of water; this emulsion is a valuable enema per rectum in peritonitis, tympanites, hysteria etc. when it is not advisable to give the drug orally; this enema is useful for threadworms present in the rectum and lower bowels; for children the strength of the emulsion is one-fourth to half of the above. Suppositories of the gum are effective for controlling the atony and partial paralysis that may follow abdominal operations.

117. FICUS BENGHALENSIS LINN. (131)

Family: *Moraceae.*

Local Names: bar, barga, nyagrodha, vad, vata.

English Name: Banyan Tree.

Uses: The leaf buds are astringent; their infusion is given in diarrhoea and dysentery. A hot poultice of the leaves is applied to abscesses to promote suppuration and to hasten their breaking.

The bark is an astringent tonic; its infusion is a specific for diabetes; its decoction is a useful astringent douche in leucorrhoea.

The latex is useful in diarrhoea and dysentery. It is commonly used locally for rheumatism, lumbago, sores, ulcers, pains, bruises, cracked and inflamed soles and toothache.

The tender ends of the aerial roots are given in obstinate vomiting.

118. FICUS GLOMERATA ROXB. (132).

Family: *Moraceae.*

Local Names: gular, udumvara, umar.

English Names: Gular Fig, Country Fig Tree.

Uses: A powder of the leaves is given with honey to check bilious disorders; an infusion of the leaves, being astringent, is prescribed in dysentery, menorrhagia and haemoptysis; it is a useful mouth-wash for spongy gums. The galls formed by insects on the leaves are soaked in milk and applied with honey to prevent pitting in smallpox.

The bark is astringent and stomachic; its infusion is given in haematuria, haemoptysis, menorrhagia, diabetes and dysentery; its decoction is a useful wash for wounds; its paste made with sweet oil is applied over ulcers.

The latex is given in piles and diarrhoea in doses of two to three drops; with cumin and sugar it is used in gonorrhoea. It is a popular local application for mumps and other glandular swellings, rheumatic joints and pains in the chest.

The figs are astringent, stomachic and carminative; the dried fig is given in doses of 180 grains with honey in menorrhagia, haemoptysis and dysentery; the figs are useful in diabetes; boiled in milk they are an efficacious remedy for visceral obstructions; in diarrhoea during pregnancy the fig is given with honey. A decoction of the dried figs is an excellent mouth-wash for sore throat and aphthous complaints of the mouth.

119. FICUS RELIGIOSA LINN. (133)

Family: *Moraceae*

Local Names: aswattha, bodhi druma, pipal.

English Names: Bodhi Tree, Pipal Tree.

Uses: The bark is astringent; its decoction or infusion is given in gonorrhoea and scabies. A paste of the bark is applied to inflammatory swellings as an absorbent; its juice relieves toothache and strengthens the gums; it is a useful dressing for cracked and inflamed soles of the feet. The powered root-bark promotes granulation when dusted over sores; its paste is applied to aphthous sores of children.

The figs are digestive and laxative; their powder is given in asthma.

120. FLACOURTIA JANGOMAS RAESCH.

Family: *Flacourtiaceae*

Local Names: jaggam, paniamalak, talispatri.

English Names: Indian Plum, Puneala Plum.

Description: A small spreading tree, having stout, sharp, long spines; small branches white dotted. Leaves alternate, dark green above, long pointed, membranous, tough, about 4 in. long, very narrow; margins toothed; leaf stalk hairy, very small. Flowers minute, greenish, dioecious. Fruit red or purple, globose, slightly compressed, crowned by the persistent stigmas; seeds flat, 10-14.

Distribution: Bengal, Bihar, Orissa and south Konkan.

Uses: The leaves are astringent, stomachic, diaphoretic, antiperiodic, carminative and expectorant; the dried leaves or their juice are given in asthma, bronchitis, phthisis, catarrh of the bladder, dysentery, diarrhoea and infantile indigestion during dentition.

The fruit relieves nausea and checks purging.

121. FOENICULUM VULGARE MILL.

Family: *Umbelliferae*

Local Names: barisaunf, madhurika.

English Name: Fennel.

Description: Stems erect, about 3 ft. high. Leaves 3 or 4 times pinnate; segments narrow, linear. Umbels of 15 or more rays, glaucous. Fruit about 1/4 in. long; vittae conspicuous.

Distribution: Cultivated throughout India and Pakistan.

Uses: The leaves are diuretic, digestive, appetizing, lactagogue, stimulant and aromatic; they are useful in cough, flatulence, colic and thirst; they improve the eyesight; either they are eaten as a vegetable or their decoction is taken. The seed is sweet, laxative, aphrodisiac, stomachic, stimulant, aromatic, corrective of flatulence, appetizer, anthelmintic, carminative, lactagogue, diuretic, stimulant and antidotal; it is given in eye diseases, burning sensation, fever, thirst, wounds, dysentery, biliousness, diseases of the chest, spleen and kidnies, headache, amenorrhoea, griping of the bowels with distension and belly-ache of children; it also promotes female monthly regularity; in dysentery either a decoction of the seed is given or a powder of the seed and ginger fried in *ghee;* in fever due to biliousness a decoction of the seed is given with sugar; in aphthae of the mouth the powder is kept in the mouth and the juice is slowly swallowed; the seed is usually given in 10 to 40 grain doses.

The oil from the seed is an anthelmintic against hookworms in doses of 60 minims.

122. GARCINIA INDICA CHOISY(135)

Family: *Guttiferae*

Local Names: kokam, raktapurka.

English Names: Kokam Butter Tree, Mangosteen Oil Tree.

Uses: The fruit is a refrigerant, demulcent, antiscorbutic, cholagogue and astringent. A drink of its infusion and its local application all over the body are prescribed in urticaria.

The concrete oil, kokum butter, extracted from the seed is demulcent and emollient; it is a specific remedy in dysentery and mucous diarrhoea; it is given in doses of 180 grains with milk three times a day; it is efficacious in phthisis pulmonaiis and scorbutic diseases; it is a substitute for cod liver oil. As an emollient it is applied to chapped hands, abrasions, ulcerations, fissures on any part of the body etc.

123. GARCINIA MORELLA DESR. (136)

Family: *Guttiferae*

Local Name: tamal.

English Name: Gamboge Tree.

Uses: Gamboge, the gum resin, is acrid and sweetish; it, being a hydragogue cathartic, is used in obstinate constipation, dropsy, liver complaints and amenorrhoea; it is a common ingredient of many drugs used for tapeworm. It is applied to sprains, bruises and swellings.

124. GLORIOSA SUPERBA LINN.

Family: *Liliaceae*

Local Names: agnisikha, kalihari, langli.

English Names: Climbing Lily, Superb Glory.

Description: A large, herbaceous, climbing annual. Leaves terminating in tendril-like, long, curling tips. Flowers axillary, long stalked, large, solitary, nodding; stalks rather stout; floral segments long, narrow, margins crisply waved, at first greenish,

then a mixture of scarlet and bright yellow. Capsules linear oblong, long. Tubers solid, fleshy, cylindric, white, very long; roots fibrous.

Distribution: Common throughout India and Pakistan.

Uses: The leaf juice is used to kill head lice.

The tubers contain the bitter principle superbine and the alkaloid colchicine; in large doses they are poisonous; in small doses of five to 10 grains they are used as stomachic, tonic, antiperiodic, alterative and purgative. The white flour prepared from the tubers is bitter, alterative, tonic and antiperiodic; in 12 grains doses it is given with honey in gonorrhoea; in 10 grain doses it is given in leprosy, colic and intestinal worms. For promoting labour pains a paste of the tuber is applied over the supra-pubic region and the vagina; its warm poultice is locally applied in rheumatism and neuralgic pains.

125. GLYCYRRHIZA GLABRA LINN.

Family: *Leguminosae*

Local Names: jethi madh, madhuka, mithi lakdi.

English Names: Liquorice, Sweetwood.

Discription: A perennial plant, up to 6 ft. high. Leaves branched unequally; leaflets 4-7 pairs. Flowers in loose racemes, violet coloured. Pods compressed, small, glandular, many seeded.

Distribution: North-west parts of India and Pakistan.

Uses: The root contains glycyrrhizic acid; it is sweet demulcent, emollient, pectroal, alterative, laxative and expectorant; it is a household remedy for cough, bronchitis and other chest complaints, catarrhal condition of bowels and urinary passages, asthma, hoarseness of voice, dysuria etc.; it is generally given in doses of 10 to 30 grains; its infusion is given in sore throat and in catarrhal conditions of the urinary and intestinal tracts; it is also used in pharmacy for masking the acrid taste of nauseous drugs.

126. GMELINA ARBOREA ROXB. (141)

Family: *Verbenaceae*

Local Names: gambhari, gumbhar, kasmaryya.

English Names: Coomb Teak, Kashmir Tree.

Uses: The juice of the tender leaves or their infusion is demulcent; they are given in gonorrhoea, catarrh of the bladder, cough etc.; they are used for cleaning ulcers.

The root is a bitter tonic, stomachic, laxative and galactagogue; as a nerve tonic it is used in insanity and epilepsy; its decoction or infusion is given in fevers, indigestion, anasarca and gonorrhoea and as a galactagogue.

127. GOSSYPIUM HERBACEUM LINN.

Family: Malvaceae

Local Names: kapas, rui.

English Name: Cotton Plant.

Description: An annual or perennial; stems erect, hairy. Leaves heart shaped, 3-lobed, apex pointed, hairy. Flowers solitary; involucre of bracts ovate; corolla yellow with a purple base. Capsules ovoid, apex sharply pointed; seeds ovoid; seed-coat covered with a greyish adherent down, completely surrounded with white cotton.

Distribution: Throughout India and Pakistan.

Uses: The herbaceous parts of the plant are demulcent.

The juice of the leaves, in doses of one to two drachms, or their infusion with the addition of lime juice is given in diarrhoea and dysentery; one to two drachms of the fresh juice are given in piles, strangury and gravel.

A poultice of the leaves and seeds is applied to bruises, soores, swellings, burns and scalds; a hot infusion of the leaves is a useful hip bath in uterine colic.

The root-bark is a substitute for ergot as an abortifacient; it is an efficient emmenagogue and is used in uterine disorders; its powder is given in 20 to 60 grain doses; and its decoction in one to two ounce doses every half hour.

The seeds are laxative, expectorant, antidysenteric, aphrodisiac, demulcent, nervine tonic, galactagogue and abortifacient; their decoction is given, in teacupful doses, in intermittent fevers and dysentery; as a nervine tonic two drachms of the decorticated seeds are used. A poultice of the seeds is applied to burns and scalds; with the addition of ginger it is used over or chitis. Cotton seed oil is an embrocation for rheumatic diseases and a dressing for freckles, herpes, scabies and wounds; as a sedative it is locally applied in neuralgic and chronic headaches.

Cotton fibres are an efficient moxa; their ash is applied to ulcers, sores and wounds.

128. GYNANDROPSIS GYNANDRA BRIQ.

Family: Capparidaceae

Local Names: ajgandha, hulhul, kanphuti.

English Names: Bastard Mustard, Caravalla Seed.

Description: A strong smelling, hairy, sticky annual. Leaf stalks long; leaves 5-foliate; leaflets sessile, middle one largest. Flowers in viscous corymbs, elongating into racemes, white or purple; stalks slender in flowers but stout in fruit. Capsules 2-4 in. long, nearly smooth, streaked; seeds kidney shaped, wrinkled, brown or black.

Distribution: A common weed in all tropical countries.

Uses: The leaves are rubefacient and vesicant; their paste is applied in rheumatism, neuralgia, headache and stiff neck; if applied too long it causes blisters; their warm juice is a popular remedy for ear diseases.

The seeds are rubefacient and anthelmintic; for the expulsion of roundworms five to 10 grains are given to children; and 30 to 60 grains to adults twice a day for two days followed on the third day by a purgative. Externally the seeds are used in place of mustard.

129. GYNOCARDIA ODORATA R. BR.

Family: Flacourtiaceae

Local Name: chaulmoogra.

English Name: Chaulmoogra.

Description: An evergreen tree; branches slender, flexuous. Leaves of 2 kinds, entire, leathery. Flowers solitary or few if borne in the leaf axil, in large clusters if borne on the trunk; dioecious, pale yellow; female flowers larger than male flowers; calyx leathery, cup shaped, 5-toothed; petals 5 with a hairy scale at the base of each. Fruit globose, large; seeds 1 in. long embedded in the pulp.

Distribution: Eastern Himalayas and Assam.

Uses: The seeds are used in leprosy and other skin diseases, secondary syphilis, scrofula and phthisis; six grains are given with *ghee* three times a day.

Chaulmoogra oil, the oil extracted from the seed, is an alterative and tonic; it is specially used in leprosy, scaly skin diseases, scrofula, rheumatism, gout etc.; for adults the dose is five to six minims three times a day; it is gradually increased to 15 minims; for children the dose is one minim once a day.

Locally the oil is used for skin diseases like eczema, scabies, herpes etc., arthritis, gout, sciatica etc.; an ointment is made by mixing one part of the oil with four parts of vaselin.

130. HEDYOTIS AURICULARIA LINN.

Family: *Rubiacceae*

Local Names: bhooya-nankeri, dapoli, gaimaril.

Description: A trailing annual herb, slightly hairy. Leaves ovate and small in open places; lanceolate and long in shady places; stipules membranous, edged with long hairs. Flowers in axillary cymes, small, white. Capsules small, hard, globose, indehiscent, crowned by the calyx segments.

Distribution: North-eastern parts of India and the Deccan Peninsula.

Uses: The herb contains the alkaloid hedyotine. It is a house-

hold remedy for dysentery, diarrhoea, colitis and other bowel complaints; it is useful even in amoebic dysentery when emetine injections, stovarsol, kurchi etc. have failed; it is safe even for children: either a liquid extract of the plant or its decoction or a bolus of the green leaves is given.

A paste of the leaves is an emollient application on abscesses and a salve for wounds.

131. HELICTERES ISORA LINN. (148)

Family: *Sterculiaceae*

Local Names: avartaki, marorphali, mrugshrungi.

English Name: East Indian Screw Tree.

Uses: The root-bark is used in intestinal disorders in doses of five to 30 grains; its decoction or its juice is useful in diabetes and in empyema.

The pods are demulcent and mildly astringent; they are given in intestinal disorders. Mixed with castor oil they are used in ear complaints.

132. HEMIDESMUS INDICUS R. BR.

Family: *Asclepidaceae*

Local Names: anantmul, hindisalas, magarbu.

English Names: Country Sarsaparilla, Indian Sarsaparilla.

Description: A twining or prostrate perennial; twining stem thickened at the nodes. Leaves variable, dark green, often variegated with white, at times undersurface pubescent. Flowers green on the outside, purple within. Follicles very slender, spreading.

Distribution: Many parts of India and Pakistan.

Uses: The roots are an excellent substitute for sarsaparilla: they are sweet, demulcent, alterative, blood purifier, diuretic, tonic and diaphoretic; they are given in loss of appetite, dyspepsia, fever, skin diseases, syphilis, leucorrhoea, genito-urinary diseases, chronic cough, etc.; their powder is given in doses of 10 to 60 grains with milk; their decoction is given in doses of

two or three ounces thrice a day; as a diuretic and demulcent a syrup made from the root is preferred.

A paste of the root is a specific for swellings, rheumatic joints, boils etc.

133. HIBISCUS ESCULENTUS LINN.

Family: *Malvaceae*

Local Names: bhindi, chatushkhand, ramturai.

English Names: Lady's Finger, Okra.

Description: An erect, herbaceous, hairy annual. Leaves cordate, 3-5 lobed, coarsely toothed; stalks bristly, long. Flowers axillary, solitary, yellow with a red centre. Capsules pyramidal, downy, 6-8-ribbed; seeds hairy, striate.

Distribution: Naturalized in India and Pakistan.

Uses: The plant contains a large quantity of bland, viscid mucilage which is a valuable emollient, demulcent and diuretic.

A decoction of the fresh fruits is given in fevers, catarrhal affections, gonorrhoea, cystitis, dysuria, leucorrhoea, etc.; a soup made of the bland mucilage of the fruit is efficacious in dysentery, especially in the chronic stage; the unripe fruit is eaten in spermatorrhoea and cough. A poultice of the fresh fruit is an emollient.

134. HOLARRHENA ANTIDYSENTERICA WALL.

Family: *Apocynaceae*

Local Names: indrayava, kurchi, kutaja.

English Names: Conessi Bark, Kurchi.

Description: A deciduous small tree; bark, slightly rough, pale brown. Leaves opposite, subsessile, elliptic, membranous, 6-12 in. long. Flowers scented, white, in loose, flat clusters; calyx minute, hairy; petals 5, tips rounded. Follicles in pairs, up to 15 in. long, very narrow; seeds ½ in. long, with a tuft of long brown hairs at the apex.

Distribution: Throughout the dry forests of India and Pakistan.

Uses: The bark contains the alkaloids conessine, kurchine and holarrhenine; it is bitter, astringent, stimulant, tonic, digestive, stomachic, expectorant, antidysenteric and febrifugal; it is an excellent remedy for both kinds of dysentery, especially amoebic; it is generally given with mocharas as a liquid extract or decoction or powder; the liquid extract is given in doses of 15 to 30 drops for children and one to two drachms for adults; the decoction is given in doses of one to three ounces; the daily dose of the powder is 60 to 120 grains divided into three or four portions; the bark is also prescribed in piles, leprosy, colic, dyspepsia, chronic chest complaints, diuresis and diseases of the skin and spleen.

The seeds are popularly known as *indrajava;* they contain the same alkaloids as the bark; they are carminative, astringent, febrifuge, anthelmintic and lithontriptic; they are particularly efficacious in dysentery, diarrhoea, fevers, chronic chest diseases, jaundice, bilious disorders, piles, diuresis and calculi, especially in the bladder; for adults the dose of the powder of the seeds is 10 to 60 grains; for infants one to two grains; the decoction is given in doses of four ounces every morning. Pessaries made of the seeds and the bark give tone to the relaxed uterine and vaginal tissues after childbirth.

135. HYDNOCARPUS KURZII WARB.

Family: *Flacourtiaceae*

Local Name: chaulmoogra.

Description: A tall, evergreen tree; crown narrow with hanging branches; young parts covered with tawny hairs; bark grey, brown or black, often with white patches on the outer side; but yellow or yellowish brown on the inner side. Leaves oblong or elliptic, 7-8 in. long, abruptly pointed, leathery; petiole swollen, geniculate at the upper end. Flowers very small, mostly dioecious, pale yellow in axillary cymes. Fruits chocolate-brown, globose, about 3 in. across, with a hard, scurfy and rather velvety rind and a stout beak formed by the persistent style; seeds numerous.

Distribution: Eastern Bengal, Sylhet and Chittagong.

Uses: The seeds yield the well known chaulmoogra oil; this oil has the same uses as the oil from *Hydnocarpus laurifolia* described below.

136. HYDNOCARPUS LAURIFOLIA SLEUMER.*

Family: *Flacourtiacea*

Local Names: chaulmoogra, garudphala, kadu-kavath, kanti.

Description: An evergreen, dioecious tree. Leaves lanceolate, sharply toothed, smooth, shining. Flowers in umbels or racemes; petals greenish white, having at the base a long scale, linear, brown, hairy. Berries round, many seeded; rind hard, rusty brown.

Distribution: Western Ghats from Konkan downwards.

Uses: The seeds are rich in oily albumen; the oil is closely allied, in composition and physical characters, to the true chaulmoogra oil extracted from *Hydnocarpus kurzii;* seeds of *Gynocordia odorata* also yield a similar kind of chaulmoogra oil; but the oil from *Hydnocarpus laurifolia* is reputed to be superior to the oil from the other two plants. Chaulmoogra oil is a specific for leprosy and many skin diseases; it is an alterative tonic and also a local stimulant; it is locally used in rheumatism, leprosy and phthisis; it is an efficacious dressing for scaly eruptions and obstinate skin dieases, even those of syphilitic origin; a liniment made of equal parts of the oil and lime water is applied to scald head, leprous ulcerations, rheumatic joints and scurf on the head.

A paste of the seeds is a domestic remedy for certain skin diseases and wounds; their infusion is used as a detergent vaginal injection in gonorhoea and foetid discharges, especially after childbirth.

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* Since the publication of the first edition of this book the name *Hydnocarpus wightiana* Blume has been changed to *H. laurifolia* Sleumer.

137. HYSSOPUS OFFICINALIS LINN.

Family: *Labiateae*

Local Name: zufah yabis.

English Name: Hyssop.

Description: A herbaceous, aromatic, glabrous perennial, about 2 ft. high. Leaves sessile, linear to oblong, usually narrow at both ends, up to 2 in. long. Flowers bluish purple; calyx persistent.

Distribution: From Kashmir to Kumaon from 8,000 to 11,000 feet.

Uses: The herb is anthelmintic, tonic, stimulant, diuretic, deobstruent, cathartic, stomachic, pectoral, expectorant and diaphoretic; its infusion is given in doses of a wineglassful two or three times a day in chronic and pulmonary catarrh, asthma, nervous diseases of the respiratory organs, uterine and urinary disorders and in roundworms; with honey the herb is given in dyspepsia and flatulence. The infusion is a useful gargle for sore throat and a wash for sore eyes. A paste of the herb is applied as a salve in catarrhal ophthalmia and as a resolvent and vulnerary; the paste steeped in boiling water is used to foment contused wounds, "black eye", sprains and strains.

The leaves are anthelmintic, stimulant, stomachic, expectorant, diaphoretic, emmenagogue and carminative; their juice is given with honey for expelling roundworms; an infusion or a syrup of the leaves is given in hysteria, colic, coughs, asthma, sore throat, chronic bronchitis, induration of the liver and spleen and uterine disorders.

138. INDIGOFERA TINCTORIA LINN. (158)

Family: *Leguminosae*

Local Names: guli, nil, nilika.

English Names: Common Indigo, Indian Indigo.

Uses: The plant is deobstruent and alterative; its decoction or powder is used in whooping cough, bronchitis, palpitation of the heart, enlargement of the liver and spleen, dropsy, diseases

of the lungs and kidneys, epilepsy and nervous disorders. A poultice of the plant is applied to piles.

The leaves are alterative; their juice is given for the same diseases as a decoction or powder of the plant. A poultice of the leaves is applied to the bladder to promote micturition; it is also locally used for skin diseases, piles etc.

A decoction of the root is given in calculous diseases; its infusion is an antidote to arsenic poisoning.

A paste of indigo, the dye extracted from the leaves, is given in liver complaints and nervous diseases. The dye mixed with castor oil applied to the navel of children acts on the bowels; a paste made with warm water applied to the pubic region relieves retention of urine; the dye is a soothing balm for burns and scalds, insect stings and animal bites; its dust is applied to ulcers and boils; its powder is dusted on ulcers to promote healing.

139. JASMINUM OFFICINALE Forma GRANDIFLORUM KOBUSKI*

Family: *Oleaceae*

Local Names: chambeli, jati.

English Names: Common Jasmine, Spanish Jasmine.

Description: A twining shrub. Branches ribbed. Leaves unequally branched, opposite; leaflets 7-11. Flowers fragrant, in lax axillary or terminal panicles; sepals long, linear; corolla white, often tinged with purple on the outside, lobes spreading.

Distribution: North-West Himalayas and Peninsular India.

Uses: The leaves are astringent; they are chewed to relieve toothache and to heal ulcers in the mouth; their juice is applied to remove soft corns between toes; the bland oil which has been boiled with the leaf juice is used in otorrhoea; a paste of the leaves is applied to wounds.

The whole plant is anthelmintic, diuretic and emmenagogue.

* Since the publication of the first edition of this book the name *Jasminum grandiflorum* Linn. has been changed to *J. officinale* forma *grandiflorum* Kobuski.

140. JASMINUM SAMBAC AITON

Family: *Oleaceae*

Local Names: mallika, moghra.

English Names: Arabian Jasmine, Tuscan Jasmine.

Description: An erect shrub, at times scadent; young branches pubescent. Leaves opposite, simple, variable in shape, membranous, 1½-3½ in. long with prominent lateral nerves. Inflorescence terminal, bearing solitary or 3-flowered cymes; flowers white, fragrant; calyx pubescent, lobes 5-9, tapering to a fine point; corolla lobes as many as calyx lobes, often numerous, spreading; tubes narrow, elongate. Fruit black when ripe, surrounded by persistent calyx.

Distribution: Throughout India and Pakistan.

Uses: The whole plant is anthelmintic, deobstruent, diuretic and emmenagogue.

A poultice of the dry leaves is applied to indolent ulcers and other skin diseases.

The flowers are a powerful lactifuge; the crushed flowers are applied to the breasts of a nursing mother to check secretion of milk if an abscess is being developed; the essential oil extracted from the flowers is a deodorant; it is used when discharges from the nose and ears are foul smelling.

141. JATROPHA CURCAS LINN. (159)

Family: *Euphorbiaceae*

Local Names: bagbherenda, dravanti, jamalgota, jungli arandi.

English Names: Physic Nut, Purging Nut.

Uses: The fresh latex is styptic; it is applied to bleeding wounds; it acts in the same way as collodion; it is locally used over piles, scabies, eczema, ringworm, itch, herpes and decayed teeth.

A decoction of the leaves is a febrifuge and a mouth-wash for strengthening the gums; the crushed leaves are rubefacient and discutient; they are applied to sluggish ulcers, boils and

abscesses to promote suppuration; a warm poultice of the leaves or their decoction is a galactagogue; it is applied to the breasts of nursing mothers; fresh hot leaves, applied layer by layer over the breasts, are equally efficacious; the juice of the leaves or their paste is a styptic like the latex; the ash of the leaves or their hot infusion is used for extracting guinea-worms.

The seeds are an acro-narcotic poison; three to five decorticated and slightly roasted seeds ars used as an active purgative. The oil extracted from the seeds is a purgative and alterative; it is given in doses of three to 15 minims in constipation, dropsy, paralysis, worms, etc. It is locally used in skin diseases like eczema, herpes, itch, sores etc. and bleeding wounds; a liniment made of one part of the oil and three parts of some bland oil is useful in chronic rheumatism; it promotes flow of milk if applied to the breasts of nursing mothers.

142. JUGLANS REGIA LINN. (160)

Family: *Juglandaceae*

Local Names: akhrot, akshot.

English Name: Walnut.

Uses: The leaves are astringent, alterative, tonic and detergent; their decoction is given as a specific in scrofulous sores, herpes, eczema, syphilis and intestinal worms.

The bark is astringent, anthelmintic, detergent and lactifuge; it is used in the same way as the leaves for skin diseases.

The fruit is alterative; the immature fruit is rich in ascorbic acid; the green hulls, separated from the fruits are anthelmintic and anti-syphilitic. The kernel is aphrodisiac; it is given in heartburn, colic and dysentery. The oil expressed from the kernel is a mild laxative, cholagogue and anthelmintic; it is specially recommended for tapeworm. The oil is a dressing for skin diseases of the leprous type.

143. LANNEA GRANDIS ENGL. (166)

Family: *Anacardiaceae*

Local Names: gningini, jingan.

English Name: Wodier Wood.

Uses: A poultice of the leaves made with black pepper is an efficacious application for rheumatic joints; leaves boiled in oil are applied to sprains, bruises, swellings and body pains.

The juice of green branches is given as an emetic in four ounce doses with two ounces of tamarind in coma caused by an overdose of narcotics.

The bark is astringent; its decoction is given in half to one ounce dose in tonic dyspepsia, general debility, gout and dysentery. The decoction is a valuable wash for old obstinate ulcers and leprous sores; a gargle for toothache and sores in the mouth; and an eye-wash for sore eyes.

The gum exuding from the trunk is given as an astringent in asthma and as a cordial to nursing mothers. Its solution is a useful mouth-wash and a lotion for skin eruptions; an emulsion made with alcohol or with cocoanut milk is an efficacious application for sprains and bruises.

144. LAWSONIA INERMIS LINN. (167)

Family: *Lythraceae*

Local Names: henna, mhendi.

English Names: Henna Plant, Mignonette Tree.

Uses: The juice of fresh leaves, in doses of two to four drachms, is given in spermatorrhoea; their decoction is given in jaundice. Bruised leaves are applied to rheumatic joints, inflammatory swellings, bruises, skin diseases, leprosy, sprains and "burning of the feet"; they are also used as a hair tonic; their decoction is an astringent mouth-wash; it is used as a douche in gonorrohoea; an ointment made of the leaves is applied to wounds, bruises and ulcers; pessaries made of the leaves and seeds are used in menorrhagia, vaginal discharges and leucorrhoea.

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The bark is given in jaundice, enlargement of the liver and spleen, urinary calculi and skin diseases and as an emmenagogue; its powder is used in two to eight grain doses; and its decoction in one to two ounce doses. The decoction is a useful dressing for burns and scalds.

An extract prepared from the flowers, leaves and tender shoots is given in half drachm doses twice a day in leprosy.

145. LEPIDIUM SATIVUM LINN.

Family: *Cruciferae*

Local Names: ashelio, chandrasur.

English Name: Common Cress.

Description: An annual, glabrous, 6-18 in. high herb. Leaves arising from the underground part of the stem divided twice pinnately; leaves arising from the stem above ground sessile, deeply lobed or lanceolate. Flowers in long racemes, small, white. Pods notched at the tip, margins winged, 2-seeded.

Distribution: Throughout India and Pakistan.

Uses: The herb contains the glucoside glucotro-poeolin; the plant is used for asthma, moist cough, bleeding piles and scrofulous diseases.

The leaves are stimulant and diuretic; they are particularly useful in scorbutic diseases.

The seeds are tonic, alterative, aphrodisiac, stimulant and aperient; they are given as a decoction or infusion in hiccup, dysentery, diarrhoea, skin diseases due to impurity of blood and enlargement of the spleen and as a galactagogue; an emulsion of the seeds is given to check hiccup and irritation of the intestinal mucous membranes in dysentery and diarrhoea; a confection made of the seeds with *ghee* and sugar is a popular remedy for general debility; a porridge of the seeds is given with sugar to nursing mothers soon after childbirth; it is also given in flatulence, impotence, leucorrhoea, lumbago and rheumatic pains. A poultice of the seeds is locally used for relief of internal inflammations and rheumatic pains; the seeds being a better rubefacient than mustard are used in place of mustard.

146. LINUM USITATISSIMUM LINN.

Family: *Linaceae*

Local Names: alasi, atasi.

English Names: Flax, Linseed.

Description: A herbaceous annual; stems slender, erect, up to 2 ft. high. Leaves alternate, linear lanceolate, sessile. Flowers in loose clusters, blue; sepals 5, narrow pointed, slightly hairy, persistent; petals 5. Capsules roundish, pointed at the apex, 10-celled, each cell containing 1 seed; seeds oval, smooth, shining, usually brown coloured.

Distribution: Throughout India and Pakistan.

Uses: The bark and leaves are given in gonorrhoea; the ash of the bark is styptic and vulnerary.

The seeds are slightly diuretic and emollient; they are administered in gonorrhoea, inflammatory gastro-intestinal disorders, irritation of the genito-urinary organs, nephritis, cystitis, colds, coughs, sore chest and throat and pulmonary complaints; for these complaints linseed tea or infusion is given repeatedly in one wineglassful doses as a demulcent and emollient; for coughs and colds the tea is given with honey; to relieve constipation one or two teaspoonfuls of the seeds are taken with water; an infusion made by steeping overnight an ounce of the powdered seeds in a tumblerful of water is given with lime juice to consumptives.

An inhalation of the smoke from burning seeds is useful in cold in the head and hysteria; the burnt seeds are styptic; a hot poultice of the seeds is a household remedy for gouty and rheumatic swellings, skin diseases like boils, abscesses, carbuncles etc., for chest troubles and diseases which cause deep seated inflammations, such as pneumonia, bronchitis, bronchopneumonia, pleurisy etc.; the counter irritant effect of the poultice is enhanced if mustard powder is dusted over it.

The fixed oil extracted from the seed is given as a laxative, in one or two ounce doses twice a day, in gravel, stone, pleurisy, spasmodic affections of the bowels and piles. The well known carron oil is a mixture of equal parts of this oil and lime water; it is a household remedy for burns, scalds and skin dis-

eases like eczema, herpes etc.; linseed oil is used for removing spots from the face; it is given as an enema in impacted conditions of the rectum and the lower colon.

147. LUFFA ACUTANGULA (LINN.) ROXB. var. AMAR (ROXB.) C. B. CLARKE*

Family: *Cucurbitaceae*

Local Names: katturaya, katukoshatki, kritabedhana.

English Name: Ribbed Luffa.

Description: An annual, climbing herb; tendrils solitary, divided at the tips. Leaves orbicular cordate, rough, pubescent, palmately 5-7-lobed. Flowers monaecious, male flowers in racemes; female solitary; corolla long, yellow. Fruit cylindric, up to 12 in. long, 10-angled; seeds not winged, slightly wrinkled

Distribution: Plains of India and Pakistan.

Uses: The plant is a bitter tonic and diuretic; in large doses an emetic; it is useful in the enlargement of the spleen.

The leaves are a useful substitute for ipecacuanha in dysentery; the juice of the fruit and the seeds are similarly used; in small doses of five to ten grains the leaves are expectorant. The leaf or its juice is used as a dressing for sores, inflamed spleen, ringworm, piles and bites of insects and animals; the fresh juice is dropped into the eyes of children in granular conjunctivitis.

The fruit is cathartic, expectorant, demulcent, diuretic and nutritive; its juice is given in doses of five to ten grains; its infusion in one to two ounce doses; in large doses they are used as a purgative or as an emetic. In jaundice a powder of the dry fruit is used as snuff; it is also applied to inflamed piles.

An emulsion of the decorticated seeds is a valuable substitute for ipecacuanha in dysentery; as an emetic the decorticated seeds are given in doses of 20 to 30 grains; as a nauseant 10 to 15 grains; as a demulcent and expectorant five to ten grains. The oil extracted from the seeds is a dressing for skin diseases.

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* In the first edition of this book this plant was named *Luffa acutangula* Roxb.; the plant is now known as *L. acutangula* (Linn.) Roxb. var. *amara* (Roxb.) C. B. Clarke.

148. MADHUCA INDICA GMEL. (169)

Family: *Sapotaceae*

Local Names: madhu, mahua, mowra.

English Names: Butter Tree, Mohwa Tree.

Uses: An ointment made of the ashes of the leaves is useful for burns and scalds.

The bark is astringent and tonic; its decoction is given in diabetes mellitus and rheumatic diseases. A lotion of the bark is an excellent gargle for bleeding and spongy gums, acute and chronic tonsilitis and pharyngitis; this lotion is made by mixing one drachm of the liquid extract with 10 ounces of water; for the cure of itch a paste of the bark is locally used.

The flowers are cooling, tonic, nutritive, expectorant and demulcent; they are given in bronchitis, coughs and wasting diseases in doses of one ounce with eight ounces of milk.

The oil extracted from the seeds is locally applied in skin diseases, chronic rheumatism and headache. As a laxative it is given in piles and habitual constipation.

149. MALLOTUS PHILIPPINENSIS MUELL. (171)

Family: *Euphorbiaceae*

Local Names: kamila, kampillaka.

English Name: Indian Kamila.

Uses: A paste made of the leaves, roots and hairs on the fruit with honey is applied to venomous bites of animals, bruises, ringworm, pimples and freckles.

Kamila, the hairy glands on the fruit, is astringent and anthelmintic; it is considered a specific for tapeworms; it is a mild drug and is preferably given to children and to those to whom male fern cannot be given; as a taenicide *kamila* powder is given in two to three drachm doses with curds, milk, honey etc.; a smaller dose is preferred for children and those suffering from debility; a fluid extract of the powder is milder and

more certain in action. An ointment made of *kamila* with some bland oil is used for ringworm, scabies, herpes and other parasitic skin diseases; It is an efficacious application for the skin disease of children known as "wild fire."

150. MANGIFERA INDICA LINN. (172)

Family: *Anacardiaceae*

Local Names: amb, amra.

English Name: Mango Tree.

Uses: A powder of the tender leaves is given in diarrhoea and diabetes. The smoke from burning leaves is inhaled for relief of hiccup, throat diseases, etc.; their ash is a popular remedy for burns and scalds; the leaves are masticated to tone up the gums; the midrib of a calcined leaf is used to remove warts on eyelids; an infusion of the leaves and bark is astringent; it is an efficacious mouth-wash for toothache, sore gums, sore throat etc.

The bark is astringent and has a marked action on mucous membranes; it is given in menorrhagia, leucorrhoea, muco-purulent discharges from the uterus and bowels, dysentery, bleeding piles, haemorrhage from the lungs, intestines or uterus and diarrhoea; the juice of the fresh bark with the addition of the white of an egg or some mucilage and a little opium is given for these diseases; or a mixture of 10 grams of a fluid extract of the bark and 120 grams of water is given in doses of a teaspoonful every hour or two; or a powder of the bark is given in doses of 10 to 60 grains. A mixture of one and half ounces of the juice of the bark and 180 grans of lime water is given for a week as a specific for gonorrhoea; the juice of the bark is also given in skin diseases. For the treatment of diphtheria and other throat diseases the bark is very efficacious; its fluid extract is locally applied and also used as a gargle; the gargle is prepared by mixing 10 grams of the fluid extract with 125 grams of water; this mixture or a decoction of the bark is used as a mouth-wash in stomatitis and as an injection in leucorrhoea, prolapse of the rectum and vagina and nasal catarrh.

An ointment made of the resinous gum from the tree is a dressing for scabies and other parasitic skin diseases.

The dried flowers, being astringent, are useful in diarrhoea, chronic dysentery, catarrh of the bladder and gleet.

The unripe fruit is acidic, astringent and antiscorbutic; the ripe fruit is antiscorbutic, diuretic, laxative, invigorating, fattening and astringent. Sun dried slices of the unripe fruit are an excellent remedy for scurvy. The fried skin of the unripe fruit is given with sugar in menorrhagia; the skin is astringent and a stimulant tonic; its powder is given with milk and honey for bleeding dysentery and as a tonic for the digestive organs. The resinous liquid oozing out at the cut end of the stalk of a fruit about to ripen is, mixed with lime juice, a useful dressing for scabies and other skin diseases.

The decorticated seed contains a large quantity of gallic acid; as an astringent it is an efficacious remedy for chronic dysentery, diarrhoea, piles, leucorrhoea, menorrhagia, haemorrhages etc.; as an anthelmintic it is of great value in roundworms; a powder of the kernel is given in 20 to 30 grain doses; in diarrhoea of adults one to one and a half drachms of the kernel is given; for children the dose is one to three grains; the fried kernel is given to expectant mothers suffering from diarrhoea; in dysentery with slime the powder is taken with curds.

151. MATRICARIA CHAMOMILLA LINN.

Family: *Compositae*

Local Names: babunah, babuni-ke-phul.

English Names: Bitter Chamomile, Wild Chamomile.

Description: An aromatic, erect much branched, 8-18 in. high annual. Leaves divided 2 or 3 times, thread-like. Flower heads terminal, about 1 in. across, on slender branched stalks, bearing an outer whorl of 10-20 white flowers and a yellow centre; bracts of the flower heads with white margins; flower bearing receptacle elongated during fruiting. Achenes small, grey, with 3-5 faint, white, slender ribs.

Distribution: The Punjab and Upper Gangetic Plain.

Uses: The flowers are an excellent substitute for the European Chamomile (Anthemis nobilis); they are carminative, stimulant, emmenagogue, diaphoretic, attenuant and discutient;

they are prescribed for dyspepsia, flatulent colic, fevers, menstrual disorders, hysteria and constitutional debility; a powder of the flowers is given in 10 to 30 grain doses; a cold infusion of the flowers is useful in indigestion and summer diarrhoea in doses of half to one ounce; a warm infusion is given in hysteria, dysmenorrhoea and suppression of menses; it is of special value in uterine reflex disturbances of women; a weak infusion is a tonic and febrifuge; a warm strong infusion is used as an emetic, especially for periodic headache. The action of the flowers on children is that of a nervine sedative and of a tonic on the gastro-intestinal canal; therefore they are useful for earache, neuralgic pains, stomach disorders, convulsions and ailments due to dentition.

The oil extracted from the flowers is given in doses of one to three minims in flatulence and colic. It is locally used on rheumatic joints; its application gives a tone to the genitals.

152. MELIA AZADARACH LINN. (175)

Family: *Meliaceae*

Local Names: backayan, vilayati nim.

English Name: Persian Lilac.

Uses: The leaves are antilithic, diuretic and emmenagogue; their juice is given in one to two drachm doses. In leprosy and scrofula the leaves and the bark are useful; a decoction of the leaves is given in half to one ounce doses; a paste of the leaves and bark is used locally. The leaf juice is applied for resolving cold swellings; a poultice of the leaves is used locally in nervous headache; the leaves are applied for resolving glandular swellings.

The bark of the stem is anthelmintic, stimulant and antispasmodic.

The root-bark is one of the best anthelmintics for roundworms; a decoction of the root-bark is given to a child in doses of half an ounce every three hours till the worm is expelled; or it is given twice a day for many days followed by a cathartic; the root-bark may have narcotic effects if an over dose is taken. The decoction is used as a bitter tonic in doses of half to one ounce.

The flowers are deobstruent, resolvent and emmenagogue. A paste of the flowers is used to kill head lice and for eruptive skin diseases.

The berries are poisonous if six or more are eaten; in smaller doses they are given in leprosy and scrofula; the dried fruits pickled in whisky are administered for tapeworms, roundworms and other intestinal worms.

153. MESUA FERREA LINN. (178)

Family: *Guttiferae*

Local Names: kanaka, nageswara, nagkesara.

English Name: Iron-wood Tree.

Uses: The bark is mildly astringent; its infusion is used as a tonic; in combination with ginger it is given as a diaphoretic.

The flowers are astringent and stomachic; in mild cases of dysentery a syrup of the flower buds is used; the dried flowers are given in vomiting, dysentery, coughs, thirst, irritability of the stomach, excessive perspiration and bleeding piles. An ointment made of the dried flowers with butter and sugar is applied to bleeding piles and burning feet.

The fruit is stimulating and alterative; it is given in diseases of the genito-urinary organs as a substitute for cubebs.

The oil extracted from the seeds is a useful embrocation for rheumatic joints and a salve for wounds and skin diseases like itch, sores, scabies etc.

154. MICHELIA CHAMPACA LINN. (179)

Family: *Magnoliaceae*

Local Names: champaka, rajchampaka.

English Name: Yellow Champa.

Uses: The bark is bitter, aromatic, tonic, stimulant, expectorant, astringent, alterative, febrifuge and antiperiodic; as a febrifuge and antiperiodic either its powder is given in doses of 10 to 30 grains for an adult; or its infusion in doses of two to three ounces; as an alterative the bark is an excellent substitute for

guaiacum in chronic rheumatism; a decoction of the bark in doses of half to one ounce is useful in mild cases of gastritis.

The root is bitter, demulcent and emmenagogue. A paste of the root-bark made with curdled milk is an efficacious dressing for abscesses and inflammations.

The flowers are stimulant, carminative, antispasmodic, diuretic and stomachic; their infusion is given in gonorrhoea to prevent scalding and also in kidney diseases; in doses of half to two ounces the infusion is administered in dyspepsia, nausea and fevers. An ointment of the flowers made with some bland oil has antipholgistic properties; it is a useful dressing for subacute rheumatism, headache, vertigo, gout and inflammations. The oil expressed from the flowers is locally used in headache, ophthalmia, rheumatism and gout; a rub of the abdomen with the oil relieves flatulence.

155. MIMOSA PUDICA LINN.

Family: Leguminosae

Local Names: lajjalu, lajjavanti.

English Name: Sensitive Plant.

Description: A diffuse, prickly undershrub. Leaves sensitive, digitately branched; leaf stalks 1-2 in. long, prickly; pinnae 1-2 pairs, 2-3 in. long; leaflets 24-40, very small, sessile, leathery, bristly beneath. Flowers small, bisexual and unisexual, in small, stalked heads all down the branches, 1-2 from each axil, pink in colour; flower stalks prickly. Pods about 1 in. long, flat, very bristly along the sutures, having 3-5 one seeded joints that separate when ripe from each other and from the persistent sutures.

Distribution: Throughout the hotter regions of India and Pakistan.

Uses: The leaves and roots are useful in gravel and other diseases of the kidneys, piles and fistula; an infusion of the leaves is given in half to one ounce doses in gravel and allied urinary diseases; a decoction of the roots is given in small doses of two to six drachms for these diseases; in large doses the root is poisonous and emetic; for piles and fistula two drachms of the pulverized leaves and roots are given with milk. The leaf juice is a useful dressing for fistular sores and abscesses; a paste of the

leaves is applied to testicular and glandular swellings; a hot infusion or decoction of the leaves is an efficacious hip bath for relieving pains of the hips and kidneys.

156. MIMUSOPS ELENGI LINN. (180)

Family: Sapotaceae

Local Names: bakul, mulsari.

English Names: Bullet-wood Tree; Indian Medlar.

Uses: The bark is astringent and tonic; its decoction is given in catarrh of the bladder and urethra as an astringent; in fevers it is given as a febrifuge and tonic. The decoction is a useful mouth-wash in diseases of the gums and teeth, excessive salivation etc.

A paste of the roots made with vinegar is applied to swellings on the face; a paste made with water is applied to pustular eruptions of the skin.

An astringent lotion prepared from the flowers is used for bathing wounds and ulcers. A powder of the dried flowers is used as snuff to relieve headache and to induce a copious discharge from the nose.

The unripe fruit is masticated as an astringent.

157. MIRABILIS JALAPA LINN.

Family: Nyctaginaceae

Local Names: gulavas, nakata.

English Names: Four-o'-clock Flower, Marvel of Peru.

Description: A perennial, herbaceous, bushy plant, about 3 ft. high. Leaves ovate, narrow pointed, up to 5 in. long. Flowers showy, of various colours, selfs or mottled or striped; each flower with a cup-like bract resembling a calyx; calyx bright coloured, with a long tube and spreading limb; corolla absent. Fruit black, tubercled, seed-like.

Distribution: Throughout India and Pakistan.

Uses: A hot poultice of leaves is used to mature and resolve boils, buboes, abscesses etc.; the leaf juice is a useful cleaning

and healing agent for wounds and bruises; and a salve for urticaria caused by dyspepsia.

The root is a purgative; it is given in dropsy; the root fried in butter is a tonic. A poultice of the roots is applied over carbuncles, contusions and wounds.

158. MOMORDICA CHARANTIA LINN.

Family: *Cucurbitaceae*

Local Names: karela, karvel.

English Names: African Cucumber, Bitter Gourd.

Description: A slender, monoecious, annual twiner; stems hairy, angular; tendrils simple. Leaves deeply palmately 5-7-lobed, toothed. Flowers small, solitary, pale yellow; stalks long, bearing kidney-shaped bracts at the middle or near the base. Fruit long, ovate or spindle shaped, with a beak at the apex, covered with ridges and raised tubercles, bright orange coloured; pulp crimson; seeds compressed, wrinkled.

Uses: The leaf juice is anthelmintic, emetic and purgative; it is given in doses of four ounces; a decoction of the leaves is used as stomachic. The leaves are locally applied as a galactagogue; the juice is a liniment for relief of burning of soles of the feet; it is applied round the eyes for the cure of night blindness.

The fruit is antidotal, antipyretic, tonic, appetizing, stomachic, anthelmintic, anti-bilious and laxative; it is used in leprosy, piles, jaundice, rheumatism, gout, blood diseases, anaemia, urinary discharges, asthma, ulcers, bronchitis and diseases of the liver and spleen; its juice mixed with sugar is given in aphthae, and dismenorrhoea; locally it is applied to burns, boils, eruptions etc.

The seed is given in doses of two to three seeds for expelling roundworms.

A paste of the roots is applied over piles.

159. MORINDA TINCTORIA ROXB. (183)

Family: *Rubiaceae*

Local Names: ak, al.

English Name: Indian Mulberry.

Uses: The leaves are a tonic, febrifuge, deobstruent and emmenagogue; with aromatics they are given in dysentery and diarrhoea. The leaf juice is applied to relieve the pain of gout and to heal sores, ulcers and wounds.

The fruit is deobstruent and emmenagogue; the baked fruit is given in dysentery and asthma. A mixture of the charred unripe fruit and salt is efficacious for spongy gums.

160. MORINGA OLEIFERA LAM. (184)

Family: *Moringaceae*

Local Names: sajana, sigru.

English Names: Ben Oil Tree, Horse Radish Tree.

Uses: The tender leaves are given in scurvy and catarrhal diseases; in doses of one and a half drachms the leaf juice is used as an emetic; it is given with salt to children suffering from flatulence. A poultice of the fresh leaves is applied to wounds, boils and swellings. The leaves are applied hot to the scrotum in hydrocele; they are also applied for extracting guineaworms; as a salve for the treatment of eye diseases the leaf juice mixed with honey is applied to the eyelids.

The bark of the stem is acrid, stimulant, diuretic and anti-scorbutic, it is used as a cardiac stimulant in asthma, cough and similar disordears. Locally it is used as a rubefacient and counter-irritant in rheumatism, and nervous pains; as an abortifacient it is introduced in the womb to dilate its mouth.

The root-bark is acrid, stimulant and diuretic; its infusion is given in doses of one and a half ounces three times a day; as an abortifacient the bark is given in half ounce doses. A hot decoction of the bark or its poultice is used to foment inflamed parts; its juice is used to relieve earache; in dental caries a few drops are placed in the cavity of the tooth; a powder of the root-bark is used as snuff in headache and earache.

The fresh root of a young tree is given in intermittent fevers, epilepsy, hysteria, palsy, chronic rheumatism, gout, dropsy, dyspepsia and enlargement of the liver and spleen; it is given in doses of 20 grains; its juice is given with milk or its decoction with asafoetida and salt in hiccup, asthma, gout, lumbago, rheumatism, enlarged spleen and liver, internal inflammations and calculous diseases; for the treatment of ascites caused by liver and spleen disorders a decoction of the root is given in doses of one to two ounces with the addition of mustard seeds; as a stimulant and diuretic an infusion of the root is given in doses of one to one and a half ounces. The fresh juice of the root is used in otolagia; its paste mixed with salt is applied to inflammatory swellings and tumours, rheumatic joints and paralytic parts; the root has a rubefacient and counterirritant action in chronic rheumatism, palsy and enlargement of the liver of children; its decoction is a useful gargle in hoarseness and relaxed throat; the efficacy of a mustard poultice is considerably increased by the addition of the fresh juice of the roots or their scrapings.

The gum that exudes from the stem is taken with milk for relief of headache, at the same time it is locally applied; the fried gum is eaten for relief of windiness. The gum is an efficacious dressing for buboes, glandular swellings, boils etc., a mixture of the gum and sweet oil is used for relief of toothache and earache; a pessary made of the gum dilates the os uteri and acts as an abortifacient.

The flowers boiled with milk are aphrodisiac; their juice is diuretic, antilithic, anthelmintic, digestive and antiasthmatic; it is taken with milk.

The tender pods are anthelmintic; they are also given in diseases of the liver and spleen, articular pains, tetanus, paralysis etc.

The seeds are acrid, pungent, stimulant, antipyretic and purgative; they are also administered in venereal diseases and ascites due to enlargement of the liver and spleen.

The bland fixed oil extracted from the seed is popularly known as ben oil; it is an aperient; locally it is applied to painful gouty and rheumatic joints.

161. MUCUNA PRURITA HOOK.

Family: Leguminosae

Local Names: atmagupta, kaunch, kavatch.

English Name: Cowhage.

Description: A slender hairy climber. Leaves 3-foliate; leaflets ovate, unequal sided, white pubescent beneath. Flowers large, 1-1½ in. long, purple, in drooping racemes. Pods 1-3 in. long, curved like an "S", ridged longitudinally, clothed with stinging hairs.

Distribution: Throughout India and Pakistan.

Uses: The roots are stimulant, diuretic and tonic; they are given for diseases of the nervous system, such as facial paralysis, hemiplagia etc., and for delirium in fevers; their decoction is given in dropsy; their strong infusion is given with honey in cholera morbus; the fresh juice is given in half to one drachm doses.

A vinous infusion of the pods is recommended as a specific for dropsy. The hairs of the pods are used as an anthelmintic for roundworms and threadworms; a confection is made of the hairs by dipping the pods in honey and syrup and then scraping the hairs till the mass becomes rather thickish; a teaspoonful of this confection is given to children; and a tablespoonful to adults; after using this confection for three or four days a brisk cathartic should be taken. An ointment made of the hairs is a local stimulant in paralysis, rheumatism and other similar affections; it acts like croton oil. The hairs cause painful irritation and eruptions if they come in contact with the skin or mucous membranes.

The seeds are astringent, nutritive, aphrodisiac and nervine tonic; they are prescribed for leucorrhoea, spermatorrhoea, menstrual disorders etc.; they are given as a powder in doses of 30 to 40 grains or as a decoction.

162. MURRAYA KOENIGII SPRENG.

Family: *Rutaceae*

Local Names: kadhinimb, katnimb, misht nimb.

English Name: Curry-leaf Tree.

Description: A small, strong smelling, downy tree. Leaves alternate, aromatic, slender, about 1 ft. long, unequally divided

into numerous leaflets; leaflets alternate, 11-25 ovate lanceolate, 1-1½ in. long, margins minutely toothed. Flowers numerous, sweet scented, in terminal panicles, white, bell shaped. Berries ovoid, pointed, greenish white with dark spots at first, purplish black when ripe.

Distribution: In damp and hot parts of India and Pakistan.

Uses: In dysentery and diarrhoea the tender leaves are eaten; to check vomiting an infusion of the toasted leaves is taken; in fevers a decoction of the leaves is given with bitters. A poultice of the leaves is applied over eruptions and bruises.

The bark and roots are stimulants. Their paste is applied over bruises and bites of venomous animals.

163. MUSA PARADISIACA LINN. (187)

Family: *Musaceae*

Local Names: kadaly, kela.

English Names: Banana, Plantain.

Uses: The ash of the whole plant or of the leaves and stem is antiscorbutic and antacid; it is useful in acidity, heartburn, colic and intestinal worms; it is useful as a dust for ulcers. The plant juice is astringent; it quenches thirst in cholera; it is also given in nervous disorders like hysteria, epilepsy etc., diarrhoea and dysentery; it is an antidote to opium poisoning; as a brisk purgative it is given with *ghee*, one ounce of each. It is applied as a styptic to cuts and wounds. A poultice of the heart of the pseudostem is applied to burns and ulcers.

The fresh, terminal leaves coated with some bland oil make a very efficacious surgical dressing for inflamed and blistered surfaces; they also can replace oiled silk and gutta percha used in water dressings of wounds and ulcers; the green leaves make a useful shade for eyes in ophthalmia and other eye diseases.

The root is tonic, antibilious and antiscorbutic; its juice is given in retention of urine and with *ghee* and sugar in gonorrhoea; as a valuable alterative the root is prescribed in goitre and other glandular diseases; a cold infusion of the root is an efficacious drink for persons under the influence of alcohol; the root is given in venereal diseases, anaemia and disorders of the blood; its ash

is an anthelmintic. An enema of an infusion of the root is given in diarrhoea.

The juice of the flowers is given with curds in dysmenorrhoea and menorrhagia; in diabetes the cooked flowers are eaten.

The fruit is antiscorbutic, demulcent, aphrodisiac, diuretic and aperient; as an astringent it is given in dysentery; an ounce of the ripe fruit mixed with a little tamarind and salt is a household remedy in early cases of dysentery and diarrhoea; the fruit is eaten to relieve soreness of the throat and chest accompanied with dry cough; it is also given in irritability of the bladder; the ripe fruit is a laxative. The flour of the dried fruit is prescribed in diarrhoea, dysentery and dyspepsia. The unripe fruit is given in diabetes and spitting of blood. The ash of the skin of the fruit is used as a dressing after scarification.

164. MYRICA NAGI THUNB.

Family: *Myricaceae*

Local Names: kaiphala, katphala.

English Names: Bay Berry, Box Myrtle, Wax Myrtle.

Description: A small, aromatic tree. Leaves alternate, crowded towards the ends of branches, 3-5 in. long, lanceolate, entire, gland-dotted, pale or rust coloured beneath; stalks short, hairy. Flowers minute, dioecious, glandular; male flowers in small catkins, solitary or on a common drooping stalk; perianth absent; female flowers in small axillary, erect spikes; perianth absent. Drupe scaly, ovoid, small, flesh red; seed wrinkled.

Distribution: The Himalayas and Khasi Hills.

Uses: The bark is aromatic, astringent, stimulant, carminative, tonic and resolvent; it is a valuable remedy in fevers, catarrh of the mucous membranes, affections of the chest, asthma, diarrhoea, typhoid-dysentery, diuresis, chronic gonorrhoea, gleet and chronic bronchitis; the bark is given either as a decoction or powder; the decoction is given with cinnamon in chronic cough, fever, piles etc. Externally the powder of the bark is used with ginger as a rubefacient and stimulant during the collapse stage of cholera. A paste of the bark made with vinegar is used for strengthening the gums and for relief of toothache; a decoction of the

bark is used for cleaning scrophulous and aphthous affections and putrid sores; its powder is used as snuff in catarrh with headache and for inducing sneezing; the powder is dusted over putrid sores; pessaries made of the bark are used to promote menses.

165. NARDOSTACHYS JATMANSI DC.

Family: *Valarianaceae*

Local Name: jatamansi.

English Names: Indian Spikenard, Indian Valerine.

Description: A perennial; stem partly underground, partly above ground; root-stock woody, long, stout, clothed with fibres from the stalks of the dead leaves; stem upto 24 in. high, upper part hairy, lower part without hairs. Leaves arising from the root-stock 6-8 in. long, 1 in. wide, without hairs or downy, longitudinally veined, lower part terminating into a stalk; leaves arising from the stem in 1 or 2 pairs, 1-3 in. long, sessile, oblong or ovate. Flower heads 1, 3 or 5; bracts small, oblong, usually hairy; corolla tube hairy within. Fruit small, with white hairs pointing upwards, crowned by the calyx teeth.

Distribution: At high elevations of the Alpine Himalayas.

Uses: The rhizome is a cardiac and respiratory stimulant, nervine tonic, aromatic, carminative, stomachic, laxative, antispasmodic, diuretic, emmenagogue and deobstruent; it is an excellent substitute for the official valerian (*Valeriana celtica*); it is one of the most efficacious and quick acting palliatives in mild cases of mental derangement, hysteria, nervous and convulsive disorders and certain disturbances due to menopause; it is used also in milder forms of delerium tremens; in very small doses it soothes the nervous system and induces tranquility of the mind; it is administered in chorea, dysmenorrhoea, flatulence, excessive urination, jaundice and other disorders of the digestive system, palpitation of the heart, bronchitis, and disorders of the respiratory organs; the dose usually recommended is 30 to 40 grains with the addition of a little camphor and cinnamon; jatmansi can also be given as an infusion in doses of one to two ounces three times a day; as an anthelmintic jatmansi is given to children with a purgative like jalap; for the treatment

of threadworms an enema of an infusion of the rhizome is given. Jatmansi is well known as a hair tonic; it is an important ingredient of many hair washes, and hair oils.

An essential oil distilled from the rhizome has the same uses as the rhizome; the dose is two to five minims; as an aro matic it is an ingredient of many medicinal preparations.

166. NELUMBIUM SPECIOSUM WILLD.

Family: *Nymphaceae*

Local Names: kamal, kaval, padma.

English Name: Sacred Lotus.

Description: An erect plant, growing in tanks. Root-stock stout, creeping. Leaves standing high above the water level, round, 2-3 ft. diam.; margins raised upwards; leaf stalk and flower stalk 3-6 ft. long, hollow, smooth or with small scattered prickles. Flowers red, white or yellow, 4-10 in. diam.; petals numerous. Fruits large, disk 2-4 in. diam., enclosing many carpels.

Distribution: Throughout India and Pakistan.

Uses: The leaf juice is given in diarrhoea; a paste of the leaves mixed with sandalwood is applied to the body in high fever and in the irritated condition of the skin and mucous membranes; the leaf stalk is applied to the forehead for relief of headache; the young tender leaves are used in piles, strangury and leprosy.

The flower stalks and flowers are refrigerant, astringent, cardiac tonic and diuretic; they are prescribed in fevers, diar rhoea, cholera and liver disorders; the flowers are given, in the form of a syrup, in coughs, menorrhagia and bleeding piles; the dose is two to three drachms; a decoction of the flowers is given in bleeding from the bowels.

The seeds are given to check vomiting; they are demulcent and therefore are given in diarrhoea and in the irritated condi tion of the intestines. A paste of the seeds is locally used over skin diseases.

The rook-stock is mucilaginous, demulcent, diuretic and cho lagogal; it is given in piles, dyspepsia and diarrhoea. Its paste is locally used for ringworm and other skin diseases.

167. NERIUM INDICUM MILL. (189)

Family: *Apocynaceae*

Local Names: kaner, karavira.

English Name: Oleander.

Uses: All parts of the plant, especially the roots, are poisonous.

The leaves contain the glucocides nerrin and oleandrin. A decoction of the leaves is locally used for reducing swellings and for killing skin parasites; the leaf juice is used for inducing lachrymation in ophthalmia; a paste of the leaves is applied in ringworm.

The roots contain two bitter principles neridorin and neriodorein. The roots are a cardiac poison. They are resolvent and attenuant; their paste is applied to chancres, piles, ulcers on the penis and skin diseases; their decoction is used to reduce inflammatory swellings; the root is introduced in the vagina as an abortifacient. The oil extracted from the root-bark is locally used for scaly skin diseases like eczema, impetigo etc., and leprosy.

168. NIGELLA SATIVA LINN.

Family: *Ranunculaceae*

Local Names: kalajira, krishnajiraka.

English Name: Black Cumin.

Description: A pretty herb, about 2 ft. high. Leaves 2-3-pinnatisect, divided into linear segments, 1-2 in. long. Flowers solitary, pale blue, about an inch across; sepals acute, clawed; nectarial petals 8, geniculate, with a gland in the knee, one on the face and one on the apex of each lobe. Carpels 5-7, inflated, warty, united to the top; beak as long as the ovary; seeds 3-angled, tubercular.

Distribution: West and East Punjab, Bihar.

Uses: The seeds are diuretic, emmenagogue, galactagogue, abortifacient, anthelmintic, carminative, stimulant; they are useful in lung complaints, coughs, jaundice, tertian fever, paralysis, piles and mild cases of puerperal fever; their decoction

is given to promote contraction of the uterus after childbirth and secretion of milk; as an emmenagogue they are given in amenorrhoea and dysmenorrhoea; the seeds are used in the dose of 90 to 270 grains; in large doses they are abortifacient; they are an excellent adjunct to purgatives and bitter drugs. A powder of the seeds mixed with sesamum oil is locally applied on eruptive skin diseases.

169. NYCTANTHES ARBOR-TRISTIS LINN. (190)

Family: *Oleaceae*

Local Names: harsinghar, parijataka, suvaha.

English Names: Coral Jasmine, Sorrowful Tree.

Uses: The leaves are antibilious, expectorant, anthelmintic, cholagogal, laxative and mild bitter tonic; as a diaphoretic their infusion is given to children in doses of two ounces; in chronic fever and fever due to biliousness the leaf juice is given with honey in doses of half to two drachms; in obstinate fevers of the intermittent type and in malaria a few leaves are eaten with a small piece of fresh ginger; the leaf juice is a safe purgative for children; as an anthelmintic for roundworms and threadworms the leaf juice is given with honey and salt; a decoction of the leaves prepared over a slow fire is a specific for obstinate sciatica.

The bark is a cholagogue and laxative; five grains of the bark are eaten with *pan* to promote expectoration; as a laxative a decoction of the bark is given in doses of half to two ounces.

The powdered seeds are used as a dust for scaly diseases of the scalp.

170. OCIMUM BASILACUM LINN.

Family: *Labiatae*

Local Names: babui tulsi, manjrik, subzah, surasa.

English Names: Common Basil, Sweet Basil.

Description: A herbaceous, erect, strongly aromatic plant, smooth or nearly so. Leaves large, variable, ovate or lanceolate,

usually without hairs, up to 1 in. long, 1½ in. broad. Flower heads in branched or unbranched racemes; flowers, small, whorled, white or pale purple; calyx 2-lipped, persistent, enlarged and hardened in fruit; corolla conspicuous, 2-lipped. Fruit of 4 large, pitted nutlets, mucilaginous when wetted.

Distribution: Throughout India and Pakistan.

Uses: The herb is aromatic, diaphoretic, stimulant, carminative and expectorant; its decoction is given in headache, gout and gonorrhoea; its juice is anthelmintic. Its decoction is a useful mouth-wash and a nasal douche.

The leaves are expectorant, stomachic and carminative; they are given with ginger and white pepper in remittent and intermittent fevers; their decoction is given in neuralgia, catarrh, renal disorders and fevers; with black pepper the leaves are administered in catarrhal affections, cough and pain in the sides; the warm leaf juice is given, in doses of half to one drachm, with honey in croup. The leaf juice is a well known remedy for ringworm; for earache and dullness of hearing a few drops of the juice are put in the ear; the powder of the leaves is used as snuff for expelling maggots from the nose; a decoction of the leaves is used for washing sore eyes.

The seeds are mucilaginous, demulcent, diuretic and nourishing; they are given in diarrhoea (especially of children during dentition), chronic dysentery, habitual constipation gonorrhoea, internal piles, cough, kidney disorders and fever; the mucilaginous jelly formed by infusing one to three drachms of the seeds in cold water for some time is given with sugar; the cold infusion is also given for relieving after-pains of childbirth. A poultice of the seeds is applied to sores and sinuses.

171. OCIMUM SANCTUM LINN.

Family: *Labiatae*

Local Names: surasa, tulsi.

English Names: Holy Basil, Sacred Basil.

Description: An erect, softly hairy herb. Leaves ovate or elliptic-oblong, entire, serrate or dentate, softly hairy, stalked, about 2 in. long and 1 in. broad. Inflorescence of elongate

racemes; flowers closely whorled; calyx 2-lipped; corolla hardly longer than the calyx, pale purple. Fruit forming 4 dry, small, reddish brown nutlets, not mucilaginous when wetted.

Distribution: Throughout India and Pakistan.

Uses: The herb is expectorant, stomachic, diuretic, antiseptic and cardiac stimulant; its decoction is given in croup, catarrh and bronchitis.

The leaves are expectorant, stomachic, stimulant, antiperiodic, anticatarrhal, diaphoretic and aromatic; their decoction or infusion is given in malaria, gastric diseases of children and liver disorders; as a prophylactic against malaria fresh leaves are taken with black pepper early in the morning or between meals; for adults the dose is five fresh leaves with three black peppers twice a week. The leaf juice is given in doses of 180 grains every morning in chronic fever, haemorrhage, dysentery and dyspepsia; it is also used to check vomiting and as an anthelmintic; a mixture of 180 grains of the juice and 45 grains of black pepper is given in cold stages of catarrhal and intermittent fevers. The leaf juice is locally used for ringworm and other skin diseases and for relief of earache.

A decoction of the roots is given in malarial fevers. A paste of the fresh roots is applied to bites of insects and leeches.

172. OPERCULINA TURPETHUM SILVA MANSO

Family: *Convolvulaceae*

Local Names: nasotara, nisota, trivruta.

English Names: Indian Jalap, Indian Rhubarb, Turpeth Root.

Description: A stout twiner; stems quadrangular, winged. Leaves very variable in shape, 2-6 in. long, base cordate or obtuse; stalks about 1 in. long. Flowers large, axillary, in few flowered cymes; main stalk 1-4 in. long; bracts about 1 in. long, often pinkish, falling off early; sepals soft, pubescent, persistent, much enlarged and thickened in fruit; corolla tubular, bell-shaped, white; tube with 5 vertical bands. Fruit a capsule, about 3/4 in. diam., roundish, upper cap-like part carrying away the style; normally 4-seeded.

Distribution: All over India and Pakistan up to 3,000 ft.

Uses: There are two varieties of this plant, one having black tuberous roots and the other white tuberous roots. The white variety is generally preferred. The roots are cathartic; they are as good as jalap and superior to rhubarb; they are given as a mild hydragogue in chronic constipation, ascites, enlargement of the spleen and in other disorders where a purgative is required; they are also prescribed in rheumatic and paralytic diseases; they are given in doses of 40 to 60 grains; the tuberous roots, in doses of half to one drachm mixed with chebulic myrobalan, are particularly efficacious for dropsical affections, melancholia, gout, leprosy, rheumatism and paralysis.

173. OPUNTIA DILLENII HAW.

Family: *Cactaceae*

Local Names: chappal, naphana.

English Name: Prickly Pear.

Description: An evergreen shrub, main stem absent; branches jointed, joints flat, succulent, ovate, bearing densely wooly hairs with tufts of numerous, unequal, long, sharp spines and bristles. Leaves generally absent. Flowers arising from the tufts of spines and bristles or margins of the joints, yellow or reddish, bisexual; calyx lobes numerous on the hollow receptacle; petals numerous; stamens numerous. Fruit pear-shaped, fleshy, purple, with spine bearing tubercles near the apex.

Distribution: Naturalized throughout India and Pakistan.

Uses: A poultice of the flat succulent branches is applied to scorbutic ulcers; a hot poultice is used for extracting guinea-worms and for bringing abscesses and boils to a head.

The juice of the plant is given in doses of 10 drops with sugar as a purgative.

The ripe fruit is refrigerant, demulcent and expectorant; it is given in gonorrhoea; the baked ripe fruit or its syrup is an efficacious remedy for asthma, bronchial catarrh, hepatic congestion and whooping cough; a teaspoonful of the syrup is given three or four times a day.

174. OROXYLON INDICUM VENT.

Family: *Bignoniaceae*

Local Names: arlu, jagdala, sonapath.

English Names: Broken Bones, Indian Trumpet Flower.

Description: A small, ungainly, deciduous, soft wooded tree. Leaves opposite, many feet long, pinnate at the apex, bipinnate or tripinnate at the base; leaflets numerous, 3-8 in. long, ovate, short stalked. Flowers in stiff, erect, terminal racemes, large, malodorous; flower stalks long, stout; calyx leathery, thick, 1 in. long; corolla bell-shaped, fleshy, 2-3 in. long. Pods large, flat, woody, black, hanging from the tips of branches, 15-30 in. long., 2-3 in. wide. Seeds winged flat, thin; wings broad, silvery.

Distribution: Throughout India and Pakistan.

Uses: A decoction of the bark is useful as a discutient for rheumatic swellings.

The root-bark is astringent, diaphoretic, bitter tonic, stomachic and anodyne; its infusion is given in doses of two ounces three times a day or its powder in doses of five to 15 grains in rheumatic fever, acute rheumatism, diarrhoea, dysentery, flatulence, cough and billiousness; as a diaphoretic the bark is given with a little opium. The medicated oil prepared with the bark is used in otorrhoea.

The tender fruit is carminative and stomachic. The seeds are purgative.

175. OXALIS CORNICULATA LINN.

Family: *Oxalidaceae*

Local Names: amrul, chukatripatti, chukrikarasa.

English Names: Indian Sorrel, Yellow Oxalis.

Description: A hairy annual or perennial. Stems trailing, branched. Leaves alternate, upto 1 in. diam.; leaflets 3, pale green, cordate. Flowers yellow; stalks axillary, bearing 2 flowers. Capsules downy, cylindrical, about 1 in. long, many seeded.

Distribution: Throughout India and Pakistan.

Uses: The leaves are cooling, refrigerant, appetizing, stoma-

chic and antiscorbutic; its infusion is given in fevers, dysentery, scurvy and biliousness; the fresh leaves are eaten as vegetable to create appetite and to aid digestion; the leaf juice is antiscorbutic and is an antidote for the intoxicating effects of dhatoora; it is also given in prolapse of the rectum; in mild cases of dysentery and enteritis the leaves boiled in buttermilk are taken twice a day. The leaves are locally used for removing warts, corns and other excrescences on the skin and opacity of the cornea; their poultice applied to inflammations relieves pain; applied to boils it brings them to a head; the leaf juice mixed with black pepper and *ghee* is a salve for the relief of red spots and eruptions on the skin due to bilousness.

176. PEDALIUM MUREX LINN.

Family: *Pedaliaceae*

Local Names: bada gokhru, gokshur.

Description: A low, thick stemmed, succulent, nearly smooth annual, having minute glands and musky odour. Leaves glaucous green oval; margin waxy; stalk long. Flowers small, axillary, solitary, yellow; stalk short, with 2 black glands at the base. Fruits hard, ovoid, with 4 sharp, conical, basal spines.

Distribution: Gujarat, East Coast and Maharashtra.

Uses: Fresh plants infused in water or milk become mucilaginous; this infusion is diuretic and demulcent; it is given in disorders of the urinary system, such as ardour urine, dysuria, etc., acute gonorrhoea, spermatorrhoea, impotence, nocturnal seminal emissions, calculous affections and some forms of dropsy; half a pint of the mucilaginous infusion, sweetened with sugar, is given in the morning for 10 days; if the fresh plant is not available a pint of the decoction of the dry fruit is equally efficacious.

The leaves, in two drachm doses, are given with milk and and sugar in gonorrhoea and gonorrhoeal rheumatism; the leaves are eaten as a vegetable for the treatment of enlarged spleen; the leaf juice is given in puerperal diseases and for promoting lochial discharge. The leaf juice is a useful dressing for ulcers.

The fruit is antispasmodic, aphrodisiac and emmenagogue; its decoction is used for the diseases for which the mucilagin-

ous infusion of the leaves is recommended; the juice of the fruit is given in puerperal diseases and for promoting lochial discharge.

A pint of an infusion of the seeds is given daily in spermatorrhoea, impotence and incontinence of urine.

177. PEGANUM HARMALA LINN.

Family: *Rutaceae*

Local Names: hurmur, lahouri, marmara.

English Name: Syrian Rue.

Uses: The seeds contain the alkaloids harmaline, harmalol, and harmine; the seeds are antispasmodic, narcotic, hypnotic, anodyne, emetic, emmenagogue, stimulant, alterative, aphrodisiac, lactagogue and anthelmintic; they are given in remittent and intermittent fevers, colic, retention of urine, pectoral diseases, hiccough, hysteria, rheumatism, impaction of calculus in the ureter and of gall stone in gall duct, jaundice, dysmenorrhoea, neuralgia and lumbago; as an anthelmintic the powdered seeds are particularly given for expelling tapeworms; the seeds are prescribed either as an infusian, decoction or powder; the powder is given in doses of half to two drachms as an anodyne in asthma, colic, jaundice etc.; a decoction of the seeds is given in half to one ounce doses, especially in amenorrhoea; in large doses the seeds have the same properties as ergot, savine and rue. A decoction of the seeds is a useful mouth-wash in laryngitis.

A paste of the roots made with mustard oil is used to kill head lice.

178. PERGULARIA EXTENSA N.E. BR.

Family: *Asclepiadaceae*

Local Names: utran, uttarvarun.

Description: A perennial, small, hairy twiner. Leaves broadly ovate, acuminate, glabrous or shortly pubescent above, velvety pubescent beneath, margins ciliate; petioles pubescent. Flowers greenish yellow or dull white, drooping on long, slender, pubes-

cent stalks; calyx pubescent, divided to the base; corolla tube narrowly campanulate; corona outer and inner. Follicles reflexed, beaked, echinate with soft spines.

Distribution: Throughout India and Pakistan.

Uses: The plant is pungent, anthelmintic, laxative, antipyretic, antibilious, diuretic, expectorant and emetic it is useful in biliousness, asthma, ulcers, leucoderma, strangury, inflammations, uterine disorders and parturition. The leaf juice is used as an expectorant in catarrhal diseases; a decoction of the leaves is given in cough as an expectorant and emetic and as an anthelmintic for removing intestinal worms; in rheumatism the leaf juice is given with the juice of fresh ginger; 360 grains of the leaves fried in *ghee* are taken for a few days for the cure of bleeding piles and intestinal worms. A mixture of the leaf juice and slaked lime is applied to rheumatic swellings, hard tumours and cysts; a poultice of the leaves is applied to carbuncles with good effect.

The root bark is given in doses of one to two drachms with milk in rheumatism.

179. PHOENIX DACTYLIFERA LINN. (199)

Family: *Palmae*

Local Names: khajur, kharjuri, sendhi.

English Name: Date Palm.

Uses: The sap or toddy tapped from the stem is rich in vitamines B^2 and C; but the fresh, unfermented sap or *nira* is not so rich in vitamin B^2; toddy is demulcent, diuretic and refrigerant in genito-urinary disorders.

The fresh fruit or date is nutritious, demulcent, tonic, expectorant, laxative and aphrodisiac; its infusion made with milk is nourishing and restorative; it is therefore given during convalescence from fevers and smallpox; its infusion made with water relieves alcoholic intoxication; the fruit is used for relief of sore throat, cough, asthma, cold, laryngitis, chest complaints, fevers, gonorrhoea, dysentery and liver complaints.

A paste of the seeds is applied to eyelids in opacity of the cornea. Fumigation of piles with the burning seeds relieves pain.

180. PHYLLANTHUS NIRURI LINN.

Family: *Euphorbiaceae*

Local Names: bhoin avali, bhumiamalaki.

Description: A much branched smooth annual, upto 18 in. high. Leaves small, alterative, arranged in 2 rows, membranous, usually having a fine bloom on the under surface, elliptic, narrow at the base; stipules 2. Flowers very small, monoecious, solitary in the axils. Capsules globose, having several shallow lobes.

Distribution: Throughout the hot parts of India and Pakistan.

Uses: The herb is astringent, diuretic, stomachic, cholagogal, laxative, deobstruent and bitter tonic. It is given for dropsical disorders, gonorrhoea and other genito-urinary diseases, jaundice, constipation, stomach-ache, dyspepsia and dysentery; half an ounce of the herb with milk or its decoction is given twice a day for these diseases. The juice of the plant is an efficacious dressing for offensive sores; mixed with some bland oil the juice is used in ophthalmia.

The young leaves are useful in milder forms of intermittent fevers; boiled in milk they are given in dropsical disorders and urinary complaints; the leaves are chewed to check hiccup. A poultice of the leaves made with rice water is applied to ulcers, oedematous swellings, bruises and wounds; for the treatment of itch and scaly skin diseases salt is added to the poultice.

The fresh roots are given in jaundice; with rice water they are given for menorrhagia; with milk they are given as a galactagogue.

181. PINUS ROXBURGHII Sargent (203)*

Family: *Coniferae*

Local Names: chil, chir, sala-dhup.

English Name: Long-needled Pine.

Uses: The wood is aromatic, antiseptic, deodorant, stimulant

* In the first edition of this book the plant was named *Pinus longifolia* Roxb.; the plant is now known as *P. roxburghii* Sargent.

and diaphoretic; it is given in burning sensation of the body, cough and fainting fits; it is generally given in combination with other drugs. A paste of the wood is an efficacious salve for sores and ulcers.

The oleo-resin, popularly known as *gandh-biroza*, is stimulant, stomachic and diuretic; it is given in gleet, gonorrhoea and other disorders of the genito-urinary organs; it is given with a mucilage in doses of one to three drachms four times a day. The resin is a useful dressing for foul ulcers, buboes and abscesses; it is a common ingradient of medicinal plasters, ointments and fumigatory pastilles.

182. PIPER BETLE LINN.

Family: *Piperaceae*

Local Names: pan, tambuli.

English Name: Betel Leaf Vine.

Decription: A slender, aromatic creeper, rooting at the nodes; branches swollen at the nodes. Leaves alternate, entire, cordate, smooth, shining, long stalked; apex prominently pointed; ribs 5-7, arising from the base. Inflorescence a closely congested spike, arising opposite the leaves; male spike 3-6 in. long, very thin; female spikes 5 in. long, ½ in. thick; flowers minute, dioecious. Berries small, globose, 1-seeded.

Distribution: Indigenous in moist evergreen forests of North-Eastern and Southern India.

Uses: The leaves are aromatic, carminative, antiseptic, astringent, aphrodisiac, mildly stimulant, expectorant, exhilarant and sialogogue; their juice with honey is given to children in colic, indigestion, diarrhoea, fever and laryngitis in one drachm doses twice a day; in hysteria the juice is given with milk; as a pectoral the juice is given with the juice of fresh ginger; a liquid extract of the leaves, in doses of 10 to 30 minims, is administered to children in catarrhal inflammation of the throat, larynx and bronchi, cough, difficult respiration and indigestion; the leaves are chewed to sweeten the breath, to remove foul odour from the mouth and to improve the voice. The leaves are chewed at frequent intervals by patients suffering from hookworms; immature

worms are thrown out with the frequent expectoration and are thus prevented from passing into the windpipe. The leaf juice is used as eye drops in ophthalmia, and other painful eye diseases and night blindness. Oil coated hot leaves are applied in layers as a rubefacient over the chest, especially of a child, in laboured breathing, cough, pulmonary affections and bronchitis; over the liver when it is congested; over the abdomen in colic and flatulence; and over mammary glands to resolve glandular swellings and to suppress the secretion of milk in case of mammary abscesses; they are also locally used in orchitis and ovaritis; they are a useful dressing for blistered surfaces and ulcers; they are an excellent substitute for oiled skin and gutta-percha tissue; they are used as a pessary in constipation or tympanites of children.

Betel oil, the essential oil extracted from the leaves, is given in catarrhal and pulmonary diseases; one drop of the oil is given in 100 grams of water; this mixture is an antiseptic gargle in diphtheria; the oil, in dose of 30 to 90 minims, is a weak anthelmintic for hookworms.

183. PIPER LONGUM LINN.

Family: *Piperaceae*

Local Names: krishna, pipar, pippli.

English Name: Long Pepper.

Description: A slender, creeping undershrub; branches erect and thin. Leaves, smooth, entire, 7-ribbed, of 2-kinds; upper leaves ovate or ovate-oblong, narrow pointed, often unequal sided, sessile, base surrounding the stem; lower leaves ovate; equal sided, stalked. Flowers dioecious, minute; inflorescence a spike; male spike narrow, 1-3 in. long; female spike 3/4 in. long, ¼ in. diam. Berries small, red when ripe.

Distribution: In evergreen forests of North-eastern and Southern India.

Uses: The dried root, known as pipal mul, possesses the same medicinal qualities as the berries but in an inferior degree; it is tonic, diuretic, bitter, stomachic, digestive and emmenagogue; it is given in palsy, apoplexy, gout, rheumatism, lumbago, tetanus, dyspepsia, weakness, body ache etc.; its infusion is given after childbirth to promote expulsion of the placenta.

The berries contain the alkaloid piperine; the sun dried unripe fruit or the spike of the small flowers is known as long pepper; it is a cardiac stimulant, carminative, alterative tonic, laxative, digestive, emollient, stomachic and antiseptic; it is given with honey in doses of five to 10 grains for indigestion, dyspepsia, flatulent colic, cough, bronchitis, chest affections, asthma, convulsions, epilepsy, hysteria, cholera, abdominal enlargements, fever, leprosy, gonorrhoea, piles, gout, rheumatism and lumbago; as an alterative tonic long pepper is particularly beneficial in paraplegia, chronic cough and enlargement of the abdominal parts; to check haemorrhage and to prevent fever after childbirth long pepper is an efficacious remedy.

184. PIPER NIGRUM LINN.

Family: *Piperaceae*

Local Names: gol mirich, kali mirich, marich.

English Names: Black Pepper, White Pepper.

Description: A stout, glabrous creeper, much swollen at the nodes. Leaves broadly ovate, 4-9 in. long, 4½ in. broad, leathery, 5-9 ribed, paler beneath. Flowers unisexual and bisexual, in slender, drooping spikes; berries in racemes, rather fleshy, one-sided.

Distribution: Western Ghats and evergreen forests of Kerala.

Uses: The unripe dried berries are the black pepper or kali mirich of commerce; and the ripe fruit with the outer covering removed is the white pepper of commerce. The berries contain the alkaloid piperine.

Black pepper is aromatic, stimulant, carminative, digestive, stomachic, nervine tonic, deobstruent, resolvent, cholagogal, diuretic, emmenagogue and antiperiodic; it is given in dyspepsia, flatulence, debility, prolapse of the anus, diarrhoea, cholera, piles, disorders of the urinary system, cough, vertigo, coma, gonorrhoea and malarial fever; as an alterative it is useful in paralytic and arthritic diseases and vertigo; it is given with quinine when the system will not respond to quinine alone; it is a substitute for cubebs in gonorrhoea; black pepper is given either as an infusion or powder or confection; as an antidote to arsenic poisoning a hot infusion of the seeds is given; its powder is used in doses of five to 20 grains; in overdoses it is a poison. A paste of black pepper

is, like mustard, a rubefacient and stimulant; it is locally used for boils, relaxed sore throat, piles, paralytic affections, rheumatic pains, headache, prolapsed rectum, skin diseases, toothache, alopacia and urticaria.

White pepper is more aromatic and less pungent than black pepper; it is particularly recommended to dyspeptics for relief of constipation.

185. PLANTAGO OVATA FORSK.

Family: *Plantaginaceae*

Local Names: isabgul, snigdhjiraka.

English Names: Ispaghul, Spogel Seeds.

Description: An annual; the stem wholly underground, covered with fine hairs. Leaves filamentous, 3-8 in. long, less than ¼ in. wide, 3-nerved, entire or distantly toothed. Inflorescence arising from the root-stock; flowers in ovoid or cylindrical spikes, ½-1½ in. long.

Distribution: The Punjab, Sind and low hills from the Sutlej westward.

Uses: The seeds are cooling, mucilaginous, demulcent, mildly laxative, emollient, mildly astringent and diuretic; they are a household remedy for inflammatory and functional derangements of the mucous membranes of the gastro-intestinal and genito-urinay systems; they are popularly used in diarrhoea and dysentery; they are also a common remedy for catarrh, pharyngeal diseases, blenorrhoea, gonorrhoea and piles; in chronic spastic constipation the seeds are particularly uesful; for this type of constipation one to two heaped tablespoonfuls, once or twice a day, are necessary; a decoction of the seeds is a refreshing drink in fevers, dysuria etc.; a mixture of 180 grains each of the seeds and sugar candy, given two to four times a day, is an efficacious remedy for slimy dysentery; for chronic diarrhoea, dysentery, gastric and duodenal ulcers and uro-genital disorders the seeds are given either as a decoction or infusion of powder with sugar. The mucilaginous matter is wholly in the seed coat; therefore it is not necessary to use the whole seed.

An emollient poultice made of the seeds with vinegar and oil is useful for swellings, rheumatism and gout.

186. PLUMBAGO ROSEA LINN.

Family: *Plumbaginaceae*

Local Names: lal chitta, raktachitrak.

English Names: Officinal Leadwort, Rosy Leadwort.

Description: A 2-3 ft. high perennial; stems zigzag, climbing. Leaves large, obovate-elliptic, tapering to the short, somewhat clasping stalk. Inflorescence a long raceme; main stalk smooth; flowers 1-2 in. long, red; calyx covered with glandular hairs.

Distribution: Throughout India and Pakistan.

Uses: The root is acrid, stimulant, diaphoretic, stomachic, sialogogue, abortifacient, and vesicant; in large doses it is narcotic and irritant; therefore it must be given only in small doses of 10 to 20 grains; it is given in dyspepsia, intermittent fevers, diarrhoea, piles, anasarca, skin diseases, rheumatism and paralysis; as an abortifacient it is used chiefly externally; the root-bark is introced into the mouth of the womb. As a vesicant the root is valuable; its paste made with water or some bland oil is applied as an embrocation over rheumatic and paralytic parts; the paste is also used over glandular tumours, buboes and abscesses; a paste made with salt and water is useful for obstinate skin diseases. The juice of the root, especially of the fresh root, is very acrid and blisters the skin.

187. PLUMBAGO ZEYLANICA LINN.

Family: *Plumbaginaceae*

Local Names: agni, chitra, chitraka.

English Names: Ceylon Leadwort, White-flowered Leadwort.

Description: A perennial, straggling, diffuse, subscadent herb, short, stem-clasping. Inflorescence glandular, hairy, sticky, 4-12 in. long spikes; flowers bisexual, white; calyx persistent, tubular, glandular, 5-ribbed; corolla tube 1 in. long, slender. Capsule included in the persistent calyx, opening transversely near the base.

Distribution: Throughout India and Pakistan.

Uses: The root of this plant has the same properties and uses as those of *Plumbago rosea* which have been described above.

188. PLUMERIA RUBRA LINN. VAR. ACUTIFOLIA BAILEY* (177)

Family: *Apocynaceae*

Local Names: champa, gulchini, shwetchampaka.

English Names: Pagoda Tree, Temple Tree.

Uses: The central part of the wood is used to allay thirst and to cure cough; it is specially given to lying-in women. The blunt end of a branch is introduced in the uterus to cause an abortion.

The bark is a purgative; two ounces of its powder are infused for four days in eight pints of water with the addition of sugar, during which period this mixture is exposed to the sun; a wine-glassful of this infusion is taken four or five times a day with some refreshing and mucilaginous beverage; this induces purging and diuresis; but if the purging be excessive a drink of butter-milk is recommended; an extract of the bark is given as a purgative; at first the dose is three to four grains a day; it is gradually increased upto 15 grains.

The root-bark is cathartic; it is given in gonorrhoea, gleet and venereal sores. A poultice of the bark is used for dispersing hard tumours.

The milky juice of the plant is cathartic; it is used in place of gamboge as a gastro-intestinal irritant; it is given in doses of eight to 12 grains made into an emulsion with milk; a grain of parched rice soaked in the juice is equally efficacious. The milky juice is applied to rheumatic joints as a rubefacient; a paste made of the juice with sandalwood and camphor is an efficacious dressing for itch.

The flowers or flower buds are eaten with betel leaves as a febrifuge.

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*In the first edition of this book the name of this plant was given as *Plumeria acuminata* Ait.; this plant is now known as *P. rubra* Linn. var. *acutifolia* Bailey.

189. PONGAMIA PINNATA PIER. (171)

Family: *Leguminosae*

Local Name: karanj.

English Name: Indian Beech.

Uses: For diseases of children the leaves are a household remedy; their juice is given in flatulence, dyspepsia and diarrhoea.

The leaves are an efficacious remedy for parasitic skin diseases; a poultice of the leaves is applied to maggot infested sores and to bleeding piles; a bath of a hot infusion of the leaves relieves rheumatic pains and cleanses ulcers and sores.

The fresh bark is astringent; it is given in bleeding piles.

The juice of the roots is applied to ulcers and fistula. A paste of the roots made with rice water is an efficacious application for the enlarged scrotum and scrofulous enlargements.

The flowers are given in diabetes.

The seeds are a specific for bronchitis and whooping cough; they are a tonic and febrifuge; a powder of the decorticated seeds is given thrice daily to infants and children in doses of one to five grains according to age; and in doses of five to 15 grains to those above 12 years of age; the powder should be prepared fresh each time it is to be used. A paste of the seeds is applied to leprous sores, skin diseases and rheumatic joints.

The yellowish brown bitter oil extracted from the seeds has antiseptic, antiparasitic and cleansing properties; it is useful particularly for the treatment of scabies, itch, herpes, eczema, ulcers and other skin diseases; a liniment made of equal parts of the oil and lemon juice is an efficacious remedy for rheumatic joints, scurfy diseases of the scalp, psoriosis, pityriasis and prurigo. The oil is also used as a stomachic and cholagogue in dyspepsia and sluggish liver.

190. PORTULACA OLERACEA LINN.

Family: *Portulacaceae*

Local Names: bada lunia, dholica, kurfa.

English Name: Purslane.

Description: A small prostrate, smooth, fleshy annual; nodes

of the stem without scales or hairs. Leaves alternate, sessile, flat, wedge shaped to linear, up to 1½ in. long. Flowers in terminal clusters, sessile, yellow. Capsules opening transversely; seeds numerous.

Distribution: Throughout India and Pakistan.

Uses: The herb is refrigerant and alterative; it is a valued article of diet in scurvy, liver complaints, dysuria, haemoptysis, diseases of the bladder, kidneys and lungs, etc.; its poultice is applied to burns, scalds and many skin diseases.

The leaves are astringent, refrigerant, diuretic and emmollient; in dysuria a teaspoonful of their infusion is given twice a day; the leaf juice is given in spitting of blood. A poultice of the leaves is a cooling dressing in erysipelas; it is applied to the temples as an emoilient to allay excessive heat and pain.

The juice of the stem is a valuable dressing for soothing the itching of prickly heat.

The seeds are demulcent, slightly astringent and diuretic; they relieve gripping pains, tenesmus and other painful effects of dysentery and mucous diarrhoea; they are preferably given in combination with other drugs; the seeds have the same uses as the whole herb.

191. PORTULACA QUADRIFOLIA LINN.

Family: *Portulacaceae*

Local Names: chhota lunia, kurkha, laghu lonika.

Description: This annual herb resembles *P. oleracea* (described above); it can be distinguished from the latter by the presence of hairs on the nodes and by the flowers being solitary, partially sunk in the enlarged end of the stalk and surrounded by four leaves.

Distribution: Throughout India and Pakistan.

Uses: This plant has the same medical uses as *Portulaca oleracea*.

192. PSORALEA CORYLIFOLIA LINN.

Family: *Leguminosae*

Local Names: bakuchi, bavachi.

English Name: Babchi Seeds.

Description: An erect annual, up to 4 ft. high; stems and branches grooved, covered with glands and a few hairs. Leaves stalked, simple, roundish, 1-3 in. long, 1-2 in. broad, firm in texture, covered with numerous black dots, hairs few; stalks up to 1 in. long, hairy, gland dotted. Flowers in solitary, axillary, dense, 10-30 flowers racemes; stalks 1-2 in. long, hairy; corolla yellow or bluish purple. Pods very small, subglobose, without hairs, slightly compressed, pitted, black, beaked.

Distribution: Throughout India and Pakistan.

Uses: The seeds are anthelmintic, laxative, stimulant, diuretic, diaphoretic, aphrodisiac and deobstruent; they are given as an alterative in leprosy, leucoderma and inflammatory diseases of the skin; as a laxative they are particularly used in bilious disorders; they are given in doses of five to 20 grains. They are locally used for skin diseases; their paste is applied over the leucoderma patch on the skin which is then exposed to the sun till the paste dries; this treatment is repeated three times a day; the oleo-resinous extract of the seeds mixed with chaulmoogra oil, or vaselin or milk is also used locally in leucoderma.

193. PTEROCARPUS SANTALINUS LINN. F. (211)

Family: Leguminosae

Local Name: raktachandan.

English Name: Red Sandalwood.

Uses: The wood is considered to have the same medicinal properties as that of White Sandalwood (*Santalum album*); however for internal use White Sandalwood is preferred; and for external use Red Sandalwood is preferred; at times a mixture of these woods is used medicinally. The wood of Red Sandalwood is astringent and tonic; its decoction is given in chronic dysentery; its

powder is given with milk in bleeding piles; the wood is administered in bilious disorders, skin diseases and as a diaphoretic.

A paste of the wood is a cooling application for boils, inflammatory diseases of the skin, swollen limbs, ophthalmia, sore eyes and headache.

The wood is an ingradient of many medicated oils and pharmaceutical preparations.

194. PUNICA GRANATUM LINN. (213)

Family: *Punicaceae*

Local Names: anar, dadim.

English Name: Pomegranate.

Uses: The juice of the fresh leaves and young fruits is given in dysentery. The juice of the leaves and flowers is a styptic; a paste of the leaves is locally used in conjunctivitis.

The bark, both of the stem and the roots, is a well known anthelmintic; however, the root-bark is preferred as it contains in a greater quantity than the stem-bark the alkaloid punicine which is highly toxic to tapeworms; the fresh bark is preferred to the dry bark; as a taenicide the bark is given as a decoction or powder; three to six fluid ounces of the cold decoction are given two to three times at intervals of an hour to an adult; after the last dose a purgative is given; for a child the dose is one to two fluid ounces; a powder of the bark is given in two to three drachm doses; a fluid extract of the bark is given in repeated doses of half an ounce; the decoction is also used for expelling roundworms. The root-bark is given as a febrifuge in fevers; it is also efficacious for leucorrhoea and passive haemorrhages; it is given in doses of 20 to 30 grains. A decoction of the root-bark is an efficacious remedy for "wasting disease" of children, and for the after effects of malaria, such as enlargement of the spleen, debility, etc. The decoction is an efficacious mouth-wash for relaxed sore throat and is a useful dressing for ulcers in the vagina and rectum.

The flower buds are known as *gool naar;* they are astringent, styptic and tonic; as an astrigent they are given in leucorrhoea, blennorhoea, chronic diarrhoea, dysentery (especially of children), bronchitis etc.; their powder is given in doses of four to five

grains; a powder or infusion of the young flowers is an anthelmintic for roundworms and *Stringylus*. The powder is used as a styptic for checking nasal haemorrhage.

The fruit is a stomachic and refrigerant; its juice, with the addition of a little saffron, is given in dyspepsia and fever to allay thirst; a sherbet of the ripe fruit is given in typhus, gastric and asthmatic fevers, inflammation of the urinary tract and haemorrhage.

A paste of the seeds made with milk is used for dissolving stones and gravel in the kidneys of expectant mothers.

The rind of the fruit is known as *dalim chhal*; it is a powerful astringent; an infusion of the dried rind with rice flour is given in diarrhoea and dysentery and as an anthelmintic; a powder of the rind, in doses of four to eight grams, is prescribed for intermittent fevers; its infusion or decoction is locally used in relaxation of the gums and throat, mucous discharge, prolapse of the rectum and the uterus and leucorrhoea.

195. RANDIA DUMETORUM LAMK. (214)

Family: *Rubiaceae*

Local Names: madan, mainphala.

English Names: Bushy Gardenia, Emetic Nut.

Uses: The fruit is emetic, expectorant, antispasmodic, diaphoretic and nauseant; the dried pulp of the fruit is generally used as an emetic and nauseant; it is reputed to be the best and safest of emetics; it is given in doses of 40 grains: the fresh pulp of two or three ripe nuts is sufficient to produce emesis; as a nauseant, expectorant or diaphoretic the dose for adults is 5 to 10 grains; the dried pulp is an excellent substitute for ipecacuanha in dysentery, the dose being 15 to 30 grains; it is a household remedy for teething troubles of children. A paste of the fruit made with rice water is applied over the navel to relieve colic; it is locally used as a discutient.

The bark is a sedative and astringent; it is given in diarrhoea and dysentery; in fevers to relieve bone ache and in rheumatism. Its paste is locally applied as an anodyne and as a discutient.

196. RAPHANUS SATIVUS LINN.

Family: *Cruciferae*

Local Names: mula, mulak, muli.

English Name: Radish.

Description: An annual. Leaves very deeply lobed, end lobe very broad; leaf stalks arising directly from the thick tap root, spreading in a rosette. Tap root very long coarse, thick, white. Inflorescence racemose, terminal; stalk short at first, much elongated in fruit; flowers white or lilac, with purple veins. Pods indehiscent, 1½ in. long, columnar, tapering at the apex to a pointed beak, constricted between the seeds.

Distribution: Throughout India and Pakistan.

Uses: The leaves are diuretic, antiscorbutic, laxative and lithontriptic; their juice is given in dysuria, strangury, calculi and as a stimulant in doses of half to one drachm.

The tap root is prescribed in urinary and syphilitic diseases, piles, strangury, dysuria, calculi and stomachache; they are also strongly antiscorbutic; their fresh juice is given in one to two drachm doses; a powder of the dried root in 10 to 30 grain doses; and its decoction in one to two ounce doses; a syrup of the root is given in hoarseness, whooping cough, bronchial disorders and other chest complaints.

The seeds are peptic, expectorant, diuretic, laxative, lithontriptic, carminative, emmenagogue and stimulant.

197. RAUWOLFIA SERPENTINA BENTH.

Family: *Apocynaceae*

Local Names: chandrika chhota chand, sarpagandh.

English Names: Serpent Wood, Serpentine.

Description: A small, herbaceous plant. Leaves in whorls of three, thin, lanceolate or obovate, oblique, lower end tapering into a short stalk, green when dry, pale beneath. Inflorescence long stalked, many flowered cyme, 1-2 in. across, stalk 2-5 in. long, stout; flowers white or pinkish, nearly 1 in. long, stalks very small, bright red, corolla tube long, slender, dilated a little

above the middle. Drupes obliquely ovoid, purplish black, ½ in. long.

Distribution: Tropical Himalayas, foot of the hills of Uttar Pradesh to Sikkim, Assam and Peninsular India.

Uses: The root contains six alkaloids the most important of which are ajmaline, serpentine and rauwolfine. It is a febrifuge and emmenagogue; it has a marked sedative and hypnotic action; it is a valuable remedy for insomnia, hypochondriasis, insanity, irritable condition of the central nervous system and high blood pressure; it is given to adults in doses of 20 to 30 grains twice a day; it has a reputation as a valued cure for insanity and is well known as *pagal-ka-dawa;* the root is used in fever during puerperium and intestinal disorders such as diarrhoea and dysentery.

198. RICINUS COMMUNIS LINN. (220)

Family: *Euphorbiaceae*

Local Name: erand.

English Name: Castor Oil Plant.

Uses: The leaf juice is given as an emetic in narcotic poisoning; a decoction of the leaves is a purgative, lactagogue and emmenagogue. A poultice of the leaves is applied to boils and swellings; coated with some bland oil the hot leaves are applied over the abdomen of children to relieve flatulence; over the pubic region of women to promote the menstrual flow; over the breasts of nursing mothers as a lactagogue; and over the inflamed breasts during lactation to soothe the mammary glands; and over a guinea-worm sore for extracting the worm.

A decoction of the roots with the addition of carbonate of potash is given in lumbago, rheumatism and sciatica. The root-bark is a strong purgative. A paste of the roots is applied in toothache.

The seeds contain the alkaloid ricinine; they also contain ricin, a potent vegetable toxin, which remains in the oil cake after the oil has been extracted; a paste of the kernel without the embryo is first boiled in milk and water and is then given in rheumatism, lumbago and sciatica. A poultice of the seeds is

applied to scrofulous sores, boils and gouty and rheumatic swellings.

The cold drawn oil from the seeds is medicinally the most useful part of the plant; it is an effective purgative generally given in acute diarrhoea, especially if caused by food poisoning; it is an excellent evacuant for children; in intestinal colic of children it is given repeatedly in small doses; its efficacy is increased if an equal quantity of glycerine is mixed with it; the oil is usually given in constipation during pregnancy and before and after childbirth to the mother, enteritis, peritonitis, dysentery, spasmodic diseases of the bowels, inflamatory disorders of the uro-genital organs, gonorrhoea, stricture of urethra, milk fever, amenorrhoea, asthma, dropsy etc.; the usual full dose for an adult is four drachms to an ounce; for a child one teaspoonful; but in those affections where the patient should not strain at stool the oil is given in small doses. As an enema the oil is given in constipation; two ounces of the oil emulsified with soap suds and water produces the desired results. The oil is locally applied in conjunctivitis.

199. RUBIA CORDIFOLIA LINN. (221)

Family: *Rubiaceae*

Local Names: manjistha, manjith.

English Name: Indian Madder.

Uses: The root is astringent, alterative, deobstruent and tonic; it is given either as a decoction or infusion in paralysis, jaundice, obstruction in urinary passages, menstrual disorders, inflammatory condition of the chest and scanty lochial discharge after childbirth.

As an astringent a paste made of the root with honey is applied over swellings, inflammations, skin diseases such as ulcers, pityriasis, versicolor, leucoderma, freckles, discolouration of the skin etc.; a paste of this root and of liquorice root (*Glycyrrhiza glabra*) mixed with rice vinegar is applied over fractures to reduce the inflammation and swelling.

200. SALMALIA MALABARICA SCHOTT. & ENDL. (225)

Family: *Bombacaceae*

Local Names: salmali, shemul.

English Names: Semal Tree, Silk Cotton Tree.

Uses: The bark of the stem is mucilaginous; its infusion is demulcent and aphrodisiac. The bark is an efficacious styptic in abnormal uterine bleeding; its paste is applied over inflammations and skin eruptions.

Mocha ras, the gum that exudes from the stem, contains tannic and gallic acids; it is astringent, tonic, alterative, styptic, demulcent and aphrodisiac; it is an efficacious remedy for diarrhoea, dysentery, haemoptysis of pulmonary tuberculosis, influenza, vomiting of blood and menorrhagia; it is given with sugar to adults in doses of 30 to 60 grains; and to a child in doses of 20 to 40 grains, especially in infantile diarrhoea.

The root of a young tree is known as *musli* or *semul masla;* it is a stimulant, tonic, emetic, demulcent, restorative, astringent and alterative; it is useful in dysentery; its juice is given in two to four fluid drachm doses; a confection made of the dried root with the juice of the fresh root, sugar and *ghee* is given as a restorative in phthisis and other wasting diseases.

A paste of the flowers is applied over boils, sores and itch; a paste of the petals mixed with milk is a soothing application in conjunctivitis of infants.

The dried young fruits are given in calculous affections and chronic inflammation and ulceration of the bladder and kidneys; the fruit is an efficacious substitute for gentian and calumba.

The seeds are given in gonorrhoea, gleet, chronic cystitis, consumption and catarrhal diseases.

201. SALVADORA PERSICA LINN.

Family: *Salvadoraceae*

Local Names: chhota pilu, pilu.

English Name: Tooth Brush Tree.

Description: An evergreen small tree; trunk short; branches

straggling; bark thin, grey; wood soft. Leaves opposite, entire variable, fleshy, greyish green. Flowers in branched spikes or racemes, small, greenish; corolla and calyx hardly separable. Drupes very small, round, surrounded by the persistent calyx and corolla, 1-seeded.

Distribution: Saline tracts of Sindh, the Punjab, Gujarat and the Deccan.

Uses: The leaves are bitter, aromatic, deobstruent, carminative, diuretic and anthelmintic; they are given as a decoction; their juice is useful in scurvy. A poultice of the leaves is applied over painful tumours, rheumatic joints, piles, etc.

A decoction of the bark of the stem or the root is given in doses of half a teacupful twice a day as a tonic and stimulant in low fevers and as an emmenagogue in amenorrhoea. The fresh bark is a vesicant and stimulant. To strengthen the gums the bark is chewed.

The berries are digestive, lithontriptic, fattening, deobstruent, carminative and diuretic; they are given in enlargement of the spleen, rheumatism, tumours and calculous affections. The oil expressed from the seeds is used as a stimulant over painful rheumatic parts of the body and all over the body after childbirth.

202. SANTALUM ALBUM LINN. (227)

Family: *Santalaceae*

Local Names: chandan, safed chandan.

English Name: Sandalwood Tree.

Uses: The wood is bitter, sedative, cooling, astringent, cardiac tonic and diuretic; it is given in biliousness, fevers and morbid thirst; a powder of the wood is given with cocoanut water to allay thirst; the powder mixed with milk or made into pills is given in gonorrhoea, fevers and bilious disorders; 360 grains of a watery emulsion of the wood mixed with sugar, honey and rice water are administered in gastric irritability, dysentery and excessive thirst. An emulsion or a paste of the wood is a cooling dressing in inflammatory and eruptive skin diseases such as erysipelas, prurigo, prickly heat etc.; the paste

is also applied to the temples in headache, hemicrania and fever; it is an efficacious resolvent for inflamed swellings.

The essential oil extracted from the wood is stimulant, antiseptic, demulcent and diuretic; it is considered equal, if not superior, to copaiba and cubebs; it is commonly used in gonorrhoea, chronic catarrh of the bladder, urethral haemorrhage, chronic foetid bronchitis, remittent fevers and obstinate gleet; to begin with the usual dose is five drops; it is gradually increased to 10 to 40 minims; the efficacy of the oil is increased by the addition of a little omum water or an infusion of ginger; the dose recommended in chronic and acute gonorrhoea is 15 to 20 minims to be taken three times a day; as an effective urinary antiseptic the average dose is eight minims; but it is efficacious only if the urine is neutral or alkaline.

The oil is a useful application over scabies and other skin diseases; a mixture of this oil and twice its quantity of mustard oil is used for removing pimples on the nose.

A pessary of the seeds is used as an abortifacient.

203. SAPINDUS TRIFOLIATUS LINN. (228)

Family: *Sapindaceae*

Local Names: arishta, phenila, ritha.

English Name: Soap-nut Tree.

Uses: Medicinally the most useful part of the tree is the fruit; it is detergent, astringent, anthelmintic, tonic, emetic and antidotal; as an emetic it is one of the commonest, cheapest and best; it is as good as ipecacuanha; it is commonly used in asthma, indigestion, diarrhoea and cholera; as an emetic the pulp is given in one to two drachm doses; in larger doses it acts as a purgative; to relieve colic four grains are given with a sherbet; as an expectorant and nauseant the dose is 10 to 20 grains; in small doses it is given as an anthelmintic; an emulsion of the pulp is prepared by well rubbing it in water and straining the mixture.

A few drops of a thick solution of the pulp are placed in the nose for relief of hemicrania, hysteria and epilepsy; a paste of the fruit made with vinegar is used for reducing scrofulous swellings; it is also used for killing head lice; applied to bites of

insects, scorpions, centipedes, etc. the paste gives quick relief; as a fumigant the fruit is used in hysteria and melancholia.

204. SARACA INDICA LINN.

Family: *Leguminosae*

Local Name: ashoka.

English Name: Ashoka Tree.

Description: A spreading, evergreen tree; bark smooth, brownish. Leaves sessile, alternate, 1 ft. long, pinnate; leaflets opposite, 8-12, glossy, elliptic, 3-9 in. long, at first greyish white in colour, later reddish, finally dark green. Flowers in large, orange, or scarlet, dense clusters; stalks minute; bracts small, red, leafy, surrounding the flowers; sepals 2, small; corolla long, tubular, divided at the apex into 4 oval lobes; stamens projecting. Pods fleshy red when unripe, 6-10 in. long, slightly curved, pointed at the tip; seeds 4-8, smooth, grey.

Distribution: Central and Eastern Himalayas, Bengal and West Peninsula.

Uses: The bark is highly astringent; it is a household remedy for uterine disorders, especially menorrhagia and leucorrhoea; it is given as a decoction; three ounces of the bark are boiled in three ounces of milk and 12 ounces of water till the total quantity is reduced to about three ounces; this quantity is to be given in one day in two or three doses; the treatment is to commence from the fourth day of the monthly period and is to be continued till the bleeding is checked; a fresh decoction is to be made each day; this decoction is also an efficacious remedy for internal piles and dysentery.

A fluid extract of the flowers is given in haemorrhagic dysentery in doses of 15 to 60 minims; the dried flowers are given in diabetes.

205. SAUSSUREA LAPPA CLARKE (229)

Family: *Compositae*

Local Names: kusht, kuth.

English Name: The Costus.

Uses: The root contains the alkaloid saussurine; the root required for medicinal use is usually collected during September and October; it is stomachic, tonic, aphrodisiac, antiseptic, aromatic, stimulant, depurative, astringent, sedative and carminative; it is commonly given in spasmodic diseases; as a stomachic and tonic it is given in advanced stages of typhus fever; as a stimulant in cholera; and as an alterative in chronic skin diseases and rheumatism; the root is given as an infusion in doses of one ounce.

206. SEMECARPUS ANACARDIUM LINN. f. (231)

Family: *Anacardiaceae*

Local Names: bhallataka, bhilavan.

English Name: Marking Nut Tree.

Uses: The ripe fruit is an acrid stimulant, digestive, sedative, antispasmodic, alterative, nervine tonic and escharotic; before the fruit is used internally it should be either well rubbed between two rough stones or boiled with cow dung and then well washed in water; the fruit thus prepared is given with butter in dyspepsia, piles, skin diseases, nervous debility, worms, palsy and epilepsy; a decoction of this fruit is given in half ounce doses at first; the dose is gradually increased to eight ounces a day according to the tolerance of the patient; the dose is gradually decreased when the desired effect is obtained.

The juice of the shell of the nut is a powerful escharotic; it is given in small doses of one to two minims with some bland oil or butter in leprous and scrofulous affections, syphilis, skin diseases, epilepsy, nervous debility, neuralgia, asthma, dyspepsia and piles.

The oil extracted from the nut is a powerful escharotic, antiseptic and cholagogue.

The bruised nut is used as an abortifacient by placing it in the mouth of the uterus; for the cure of piles the painful swollen parts are fumigated with the smoke from burning shells of the fruits. The juice from the shells and the oil from the nut are strong counter-irritants and vesicants; they are applied over rheumatic parts, sprains, leprotic nodules, piles and inflammations of the bones and joints.

207. SESAMUM INDICUM LINN.

Family: *Pedaliaceae*

Local Name: til.

English Names: Gingeli, Sesame.

Description: An erect, herbaceous, slightly hairy annual. Leaves large, thin, sparsely hairy, up to 5 in. long, lower leaves often lobed and toothed. Flowers axillary, solitary, with an offensive smell; corolla whitish pink, with yellow marks, 1-1½ in. long. Capsules oblong, erect, 1 in. long, 4-sided, splitting open from above to half-way down.

Distribution: Throughout India and Pakistan.

Uses: The leaves, being highly mucilaginous, are used as a demulcent in respiratory affections, infantile cholera, diarrhoea, dysentery and other bowel affections and bladder diseases, such as catarrah, cystitis, strangury etc; the leaves are given as an infusion; one or two full sized fresh leaves are infused in half a pint of cold water; hot water is used if the leaves are dry.

A decoction of the leaves and roots is a useful hair wash.

The seeds are emollient, nourishing, tonic, lactagogue, emmenagogue, demulcent, laxative, diuretic and fattening; they are particularly useful in piles and constipation; they are usually given as a decoction or confection; for bleeding piles their powder is given with water and butter; in eight to 10 grain doses the seeds are given three to four times a day for the treatment of amenorrhoea and dysmenorrhoea; coupled with this treatment the patient is given a hip bath to the water of which is added a handful of the crushed seeds; a decoction of the seeds or linseed

tea is given in cough; in large doses the seeds are an abortifacient. A poultice of the seeds is applied over ulcers, burns, scalds etc.

The oil extracted from the seeds is demulcent and emmenagogue; it is generally used in dysentery and urinary disorders; it is taken in small doses; as an abortifacient it is used in large doses.

The oil is rubbed on the head for relief of migraine and vertigo; a mixture of equal parts of the oil and lime water is a household remedy for burns and scalds; the oil is used as a substitute for olive oil in pharmaceutical preparations for external uses.

208. SHOREA ROBUSTA GAERTN. f. (232)

Family: *Dipterocarpaceae*

Local Name: sala.

English Name: Sal Tree.

Uses: The aromatic, oleo-resinous gum that exudes from the stem is the sal dammar of commerce and is locally known as *ral;* it is astringent, detergent, aphrodisiac and stimulant; it is given in dysentery, bleeding piles, weak digestion and gonorrhoea; it is given with honey or sugar in 20 to 30 grain doses to adults; and in 10 to 20 grain doses to children; as an aphrodisiac it is administered every morning in 20 grain doses with a pint of milk.

The gum resin is commonly used in the preparation of ointments for chilblains and ulcers; its paste made with brandy and the white of an egg is an efficacious dressing for lumbago and other rheumatic pains; its powder is applied to relaxed uvula; it is used for fumigating sick-rooms.

209. SIDA ACUTA BURM.

Family: *Malvaceae*

Local Names: bala, kharenti.

Description: A much branched undershrub; branches slender, cylindric, clothed with minute stellate hairs. Leaves 1-3 in. long, lanceolate, without hairs; margins toothed. Flowers axillary, soli-

tary; stalks 1-2 in. long, jointed about the middle; calyx small, triangularly lobed; corolla twice as long as the calyx, yellow. Fruit small, wrinkled, downy, awned, toothed on the dorsal margins; carpels 5-9; seeds smooth, black.

Distribution: Throughout India and Pakistan.

Uses: A confection made of the leaf juice is an anthelmintic for intestinal worms.

Warm leaves coated with sesame oil are applied over abscesses to hasten suppuration; the leaves are used as an abortifacient.

The root is bitter tonic, cooling, astringent, stomachic, diaphoretic and antipyretic; it is given in nervous diseases, febrile disorders, urinary diseases, chronic bowel complaints and mild cases of debility; an infusion with the addition of ginger is given twice a day in small teacupful doses.

210. SIDA CORDIFOLIA LINN.

Family: *Malvaceae*

Local Names: bala, baryal, kharaiti.

English Name: Country Mallow.

Description: An annual or perennial, much branched, softly hairy, erect. Leaves very hairy on both the surfaces, cordate or ovate oblong, 1-2 in. long, upto 1½ in. broad, apex broad; margins having round teeth; petioles as long as the leaves. Flowers solitary or few together, yellow; stalks short, jointed near the flower. Fruit up to 1/3 in. diam.; carpels 7-10, awned, furrowed at the back, strongly wrinkled, covered with stiff, recurved hairs.

Distribution: Throughout India and Pakistan.

Uses: The plant contains the alkaloid ephedrine; the seeds contain much more of the alkaloid than the remaining parts of the herb; the juice of the plant is given in rheumatism; gonorrhoea and spermatorrhoea; its infusion is given in gonorrhoea, rheumatism and febrile diseases.

The twigs are fibrous; boiled milk whisked with the twigs coagulates; the decanted liquid is given in piles.

The leaves are mucilaginous; their infusion is given as a demulcent in fevers; they are given as a vegetable to patients suffering from bleeding piles.

A poultice of the leaves is applied to boils to promote suppuration.

The roots are cooling, astringent, stomachic, nervine and cardiac tonic, diuretic, alterative, febrifuge and demulcent; their infusion is given in half to two drachm doses in nervous and urinary diseases, bilious disorders, fevers, bleeding piles, strangury, haematuria, gonorrhoea, cystitis, leucorrhoea, facial paralysis etc.; a strong decoction of the root is diaphoretic, antipyretic, stomachic and tonic; with asafoetida and rock salt the root is given in hemiplagia, facial paralysis, stiff neck and noises in the ear with headache. The root-bark is given with milk and sugar in frequent micturition, leucorrhoea, gonorrhoea and chronic dysentery; with sesame oil and milk it is given in facial paralysis and sciatica; as an alterative it is useful in rheumatism; in elephantiasis a paste of the root made with the juice of palmyra palm is locally used; the juice of the roots is applied as a sedative over wounds and ulcers.

211. SOLANUM NIGRUM LINN.

Family: *Solanaceae*

Local Names: kakmachi, makoy.

English Names: Black Nightshade, Common Nightshade.

Description: An erect, leafy, annual, without prickles. Leaves stalked, thin, smooth, ovate; margins wavy or bluntly lobed with a few broad teeth. Flowers in axillary or lateral, drooping, umbellate, long stalked cymes, small, white. Berries round, about ½ in. diam., green at first, red or yellow when ripe, shining.

Distribution: Throughout India and Pakistan.

Uses: The herb is a valuable cardiac tonic, alterative, diuretic, sedative, expectorant, diaphoretic, cathartic, hydragogue and anodyne; it is used as a vegetable or as a decoction in dropsy, chronic enlargement of the liver and jaundice; a syrup of the herb is given as an expectorant, diaphoretic and, in fevers, as a cooling drink; the plant juice is given in doses of six to seven ounces in chronic enlargement of the liver, chronic skin diseases, blood spitting and piles; as an alterative it is used in small doses of one or two ounces. The juice is also used locally in chronic skin diseases; as an anodyne a decoction of the plant is used for

washing inflamed, irritated and painful parts of the body; a paste of the plant is a useful application over corroding ulcers, anthrax pustules, suppurating chancres, severe burns, herpes and rheumatic joints.

The leaf juice is given in inflammation of the kidneys and bladder and in gonorrhoea; an extract of the leaves and stems is prescribed in one and a half to two drachm doses for dropsy, heart diseases, skin diseases, piles, gonorrhoea, inflammatory swellings and chronic enlargement of the liver and spleen; as a strong diaphoretic a hot infusion of one or two grains of the dried leaves is used; a decoction of the leaves is a useful diuretic and depurative.

Hot leaves are applied over the swollen and painful scrotum and testicles; a juice or poultice of the leaves is an efficacious application over rheumatic and gouty joints, eruptive skin diseases, corroding ulcers, tumours, whitlow and burns; the juice applied round the eyes has a milder effect than belladona; it produces a slight dilatation of the pupil; a decoction of the leaves is used to bathe tumours and inflamed, irritated and painful parts of the body; an infusion is an efficacious vaginal injection.

The berries contain the toxic alkaloid solanine; they are alterative, diuretic and tonic; they are given in fevers, diarrhoea, anasarca and heart disease; they are externally used to dilate the pupil.

212. SOLANUM XANTHOCARPUM SCHARD & WENDL.

Family: *Solanaceae*

Local Names: kantakari, katai, kateli.

English Name: Indian Solanum.

Description: A very prickly, diffuse, procumbent perennial; when mature nearly without prickles. Leaves ovate or elliptical, very prickly, sparsely hairy, 4-5 in. long; margins deeply cut, lobes broad, acute; spines numerous, yellow, straight, almost ½ in. long. Flowers solitary or in few-flowered cymes; flower stalks and calyx hairy at first, later smooth; calyx usually prickly, persistent

in fruit; corolla blue-purple, hairy outside. Berries partiallly covered with the persistent calyx, yellow or white, green blotched, globose; seeds numerous, smooth.

Distribution: Throughout India and Pakistan.

Uses: The whole plant is expectorant, bitter, stomachic, aperient, diuretic, astringent, anthelmintic and altertive; it is prescribed in fevers, coughs, asthma, flatulence, costiveness, dropsy, heart disease, pain in the chest and gonorrhoea; its decoction is given in doses of half to two ounces or its juice in doses of half to two drachms.

The roots are valuable as expectorant, diuretic, febrifuge and anodyne; they are given in coughs, dysuria, stone in the bladder, costiveness, dropsy, asthma, catarrhal fever, pain in the chest and enlargement of the liver and spleen; they are given as a confection or decoction.

213. SOYMIDA FEBRIFUGA ADR. JUSS. (234)

Family: *Meliaceae*

Local Names: rohan, rohini.

English Names: Indian Red Wood Tree, Rohun Tree.

Uses: The bark is astringent, antiperiodic and febrifuge; it is given in intermittent fevers, general debility, dysentery, diarrhoea and disorders where astringents are indicated; four to five drachms of the bark are given in a day, about a drachm each time; in large doses the bark affects the nervous system and causes vertigo and stupor; its decoction is given in malarial fever in doses of one ounce three times a day; it is a useful substitute for oak bark. The decoction is efficacious as a gargle, vaginal injection, enemata and wash for rheumatic swellings; a poultice of the bark is equally effiicacious for rheumatic swellings.

214. SPHAERANTHUS INDICUS LINN.

Family: *Compositae*

Local Names: gorakh mundi, maha mundi.

English Name: Indian Sphaeranthus.

Description: A small, prostrate, hairy, aromatic annual; stems and branches clothed with glandular hairs, irregularly winged.

Leaves alternate, toothed, hairy, oblong, broader at the top. Flower heads very small, round, pink or purple, in globose clusters; florets tubular, numerous, minute. Achenes angular.

Distribution: Throughout India and Pakistan.

Uses: The herb contains the bitter alkaloid sphaeranthine; the herb is alterative, pectoral, bitter stomachic, demulcent and emollient; with cumin the herb is used as a stomachic; with honey it is given in cough; a powder of the herb is given in doses of 20 to 30 grains for glandular swellings of the neck, tumours, urethral discharges and jaundice.

The leaves are given as a nervine tonic; for chronic skin diseases 20 grains of the shade dried leaves are given twice a day.

The flowers are alterative, depurative, refrigerant and tonic.

The roots are stomachic and anthelmintic; they are given in doses of 40 grains a day; a powder of the root is given with honey for cough; very finely powdered root-bark is given with buttermilk in bleeding piles; at the same time a paste of the root is locally used.

215. STRYCHNOS NUX-VOMICA LINN. (239)

Family: *Loganiaceae*

Local Names: kuchala, vishtinduk.

English Names: Nux-vomica Tree, Poison Nut Tree.

Uses: A poultice of the leaves is applied over sloughing wounds and ulcers.

The bitter wood is given in intermittent fevers; a few drops of the bark juice are given in cholera and acute dysentery; its infusion is a tonic and febrifuge.

The dried ripe seeds are the nux vomica of commerce; they contain two alkaloids; strychnine and brusine; the seeds are bitter, stomachic, nervine tonic, stimulant, astringent and aphrodisiac; in excessive doses they are a virulent poison and induce tetanic convulsions; they are used only in small doses of half to four grains; their extract is used in minute doses of one-fourth to one grain; the powdered seeds are given in paralysis, relaxation of the muscles and tendons, general debility, chronic rheumatism, dyspepsia, intermittent fevers, diarrhoea, worms, hysteria,

chronic constipation, hydrophobia, tobacco amaurosis, prolapse of the rectum, mental emotions, gout, insomnia due to over-fatigue, alcohol or lead or opium poisoning, spasmodic diseases as vomiting of pregnancy, sexual impotence, cholera and epilepsy; as a respiratory stimulant the seeds are given in bronchitis and phthisis.

216. STRYCHNOS POTATORUM LINN. f. (240)

Family: *Loganiaceae*

Local Names: katak, nirmali.

English Name: Clearing-nut Tree.

Uses: The ripe fruit is given as an emetic in half a drachm doses; and as a demulcent in 10 to 15 grain doses; its pulp is a substitute for ipecacuanha in dysentery and bronchitis; it is reputed to be useful in diabetes as well.

The seed is an efficacious remedy for long standing and chronic diarrhoea; a paste made of one or half a seed with buttermilk is given daily for a few days; the powdered seed is given with milk in irritation of the urinary system, gonorrhoea and diabetes.

The seed is chiefly used externally; it is applied to boils to promote suppuration; its powder mixed with honey and a little camphor is applied to the eyes in eye diseases such as copious watery discharge, opacity or ulceration of the cornea and purulent discharge from the conjunctiva.

217. SWERTIA CHIRATA HAM.

Family: *Gentianaceae*

Local Names: bhunimba, bhuchiretta, kariatun.

English Names: Chiretta, Indian Gentian.

Description: A 5 ft. high shrub; stem branching, robust. Leaves usually sessile, lanceolate, 4 in. long. Flowers numerous, in large leafy panicles, very small, green yellow, tinged with purple, with long white or pink hairs. Capsules minute, sharp pointed.

Distribution: Northern parts of India and Pakistan and temperate Himalayas.

Uses: The plant contains two bitter principles, ophelic acid and chiratin; it is an effective substitute for gentian; it is a valuable bitter tonic, stomachic, febrifuge, anthelmintic, appetizer, laxative, alterative, antidiarrhoeic and antiperiodic; it is an excellent drug for intermittent fevers, skin diseases, intestinal worms, bronchial asthma, burning of the body and regulating the bowels; it is given as an infusion or tincture; its decoction is not recommended; the infusion made in hot water with aromatics like cloves, cinnamon etc. is given in doses of half to one fluid ounce; as a tonic this infusion is given in doses of two ounces twice a day before meals; to check hiccup and vomiting the root is taken in doses of five to 30 grains with honey.

218. SYMPLOCOS RACEMOSA ROXB.

Family: *Symplocaceae*

Local Names: lodh, lodhra, tilwaka.

English Name: Lodh Tree.

Description: A small tree with a broad crown; bark rough. Leaves 3-6 in. long, 1-2½ in. broad, oblong-elliptic, slightly toothed or entire, dark green above, mid-rib slightly hairy. Flowers in pubescent racemes, each flower having 3 pubescent bracts, small, white at first, later yellowish. Fruit a drupe, 3-celled, purplish black when ripe, crowned by the perisistent calyx.

Distribution: Throughout north-east India and Pakistan.

Uses: The bark, known as lotur bark, is cooling, mildly astringent, cholagogal and aperient; it is commonly used in bowel complaints, menorrhagia, discharges due to the relaxed condition of mucous membranes, dropsy, eye diseases, liver complaints, fevers, skin diseases etc.; in menorrhagia 20 grains of the powdered bark sugar are given two or three times a day for three or four days.

A decoction of the bark is a mouth-wash for spongy and bleeding gums; it is also used as an eye-bath in eye diseases and as a wash for ulcers.

219. SYZIGIUM CUMINI SKEEIS. (242)

Family: *Myrtaceae*

Local Names: jambu, jamun.

English Names: Black Plum, Jambul.

Uses: The leaves are astringent; their juice is a useful remedy for dysentery with bloody discharges; it is given in two to four fluid ounce doses.

The bark is astringent; its juice is given in two to four fluid ounce doses in chronic diarrhoea and dysentery and menorrhagia; its powder is given, in doses of five to 10 grains, with curds in menorrhogia.

A decoction of the bark is an efficacious mouth-wash and gargle for treating spongy gums, stomatitis, relaxed throat and other diseases of the mouth; a paste of the burnt bark made with some bland oil is applied over burns and scalds.

The ripe fruit is astringent, stomachic, carminative, antiscorbutic and diuretic; its juice is generally used in enlargement of the spleen, chronic diarrhoea and suppressed or scanty urine.

The seed is astringent; it is very efficacious for diabetes mellitus and for glycosuria; it quickly reduces sugar in urine; a liquid extract of the seed is given in half to two drachm doses; a powder made of the carefully dried fresh seed is given at first in doses of 5 to 15 grains and gradually increased to 40 grains; in five to 10 grain doses the powder is given in diarrhoea and dysentery.

220. TAMARINDUS INDICA LINN. (244)

Family: *Leguminosae*

Local Names: chinch, imli.

English Name: Tamarind Tree.

Uses: The tender leaves and flowers eaten as a vegetable are cooling and antibilious; the leaf juice is given in bilious fever and scalding urine; their decoction is given to children as an anthelmintic; it is also useful in jaundice.

A poultice of the fresh leaves is locally applied over inflammatory swellings of ankles and joints, sprains, boils, sore eyes

and scabies; a powder of the dried leaves is dusted over foul ulcers, wounds and sore eyes and is used as a gargle.

The bark is astringent, tonic and febrifuge; the ash obtained by heating the bark with salt in an earthen vessel is given in one to two grain doses for colic and indigsetion; a mixture of this ash with water is a gargle for sore throat and a mouth-wash for aphthous sores.

The pulp of the fruit is antiscorbutic, digestive, carminative, laxative, astringent, febrifuge, refrigerant and antiseptic; it is given in habitual costiveness, alcoholic intoxication, dhatoora poisoning, bilious vomiting, febrile disorders and dysentery; the pulp is generally given in half ounce doses; to correct bilious disorders it is given in three drachm to two ounce doses; a sherbet made by boiling one ounce of the pulp in a quart of milk with the addition of a few dates, cloves and cardamoms and a little camphor is an efficacious drink in febrile and inflammatory disorders, such as fevers, biliousness, gastric affections, dysentery etc. and in sunstroke; an infusion of the pulp, prepared by macerating it in water is particularly useful in loss of appetite and disinclination for food; the efficacy of the strained infusion is increased by adding to it black pepper, sugar, cloves, cardamoms and camphor to taste; as a refrigerant in fevers the pulp is given with milk.

A hot poultice of the pulp is applied over inflammatory swellings; a paste of the pulp made with salt is used as a liniment in rheumatism; tamarind water is a mouth-wash and gargle for stomatitis and sore throat.

The seeds are astringent and discutient; the seed coat; in doses of 10 grains with an equal quantity of cumin and sugar, is given in dysentery and diarrhoea two or three times a day. A poultice of the boiled seeds is applied over boils.

221. TAMARIX GALLICA LINN. f. (247)

Family: *Tamaricaceae*

Local Name: jhau.

English Name: Tamarisk.

Uses: The bark of the twigs and the galls are astringent; their infusion is given in one to two ounce doses in diarrhoea and dy-

sentery. An ointment made of one to two drachms of the galls, half a drachm of opium and one ounce of some bland oil is applied to ulcerating piles and anal fissures; this ointment is a useful substitute for the official unguentum galle cum opio; an infusion of the galls is an efficacious cleansing agent for foul sloughing ulcers and buboes.

The manna from this plant is a mild laxative; it is particularly useful for children as it is sweet and does not irritate the bowels. It is also an expectorant and detergent.

222. TECTONA GRANDIS LINN. f. (248)

Family: *Verbenaceae*

Local Names: sagvan, shak.

English Name: Teak tree.

Uses: The bark is a powerful astringent. The wood is given in dyspepsia and heartburn and as an anthelmintic. It is used as a local refrigerant and sedative; its paste or that of its saw dust is a soothing dressing for the inflammation and irritation caused by marking nut; it is also used for dispersing inflammatory swellings and for relieving headache and toothache.

The flowers and seeds are diuretic. A powder of the fruit rubbed on the pubis produces a marked diuresis in partial suppression of urine. The oil extracted from the fruit is hair tonic; it promotes growth of hair; it is also a useful dressing for the cure of skin itch.

223. TEPHROSIA PURPUREA PERS.

Family: *Leguminosae*

Local Names: sharapunkha, sarphoka.

English Name: Purple Tephrosia.

Description: A much-branched, erect perennial; glabrous or sparsely hairy, about 30 in. high, having an offensive smell. Leaves about 5 in. long; stipules erect or reflexed; leaflets 11-21, glabrous above, covered with silky hairs beneath; nerves conspicuous on both surfaces. Flowers red or purple, in leaf-opposed racemes, about 6 in. long; calyx thinly silky, teeth triangular;

corolla about ½ in. long, pubescent on the back. Pods linear, slightly curved; seeds 5-6.

Distribution: Throughout India and Pakistan.

Uses: The plant is tonic laxative, cordial, blood purifier, deobstruent, diuretic, anthelmintic for children, antidotal, antipyretic and alterative; it is useful in diseases of the liver, spleen, heart and blood, bronchitis, bilious febrile attacks, gonorrhoea, asthma, tumours, ulcers, piles; a decoction of the dried plant is given in cough, flatulence, diseases of the liver and spleen, as a diuretic in gonorrhoea and strangury, and as a blood purifier in skin diseases.

The root is diaphoretic, diuretic, blood purifier and bitter; it is useful in dyspepsia, tympenitis, chronic diarrhoea, bronchitis, asthma, inflammation, boils, pimples and disorders of the liver and spleen; in diarrhoea due to indigestion a decoction of the root is given with long pepper; the decoction is given with black pepper in gonorrhoea; in fever and vomiting a paste of the root made with water and ginger is given with honey; in cough and hiccough a pill of the size of a gram seed made of the paste of the root-bark and black pepper is very efficacious; as a blood purifier a docoction of the root is very useful; the decoction is also given to children as an anthelmintic; in diseases of the liver a paste of the root mixed with buttermilk is given; in cough the dry root is smoked; in hydrocele a powder of the root is given with water for about a month; the root is given in doses of 10 to 45 grains. For the cure of enlarged glands of the neck a paste of the root made with rice water is applied to the enlarged glands; a powder of the root mixed with honey is applied to wounds.

For calculous affections the juice of the leaves in doses of 1½ ounces is given with sugar; this treatment is to be continued for some time; for the cure of dry eczema half an ounce of the tender leaves macerated in water is taken. An ointment made of the fine powder of the leaves with some bland oil has healing properties.

The oil extracted from the seeds is an efficacious local application for eczema.

224. TERMINALIA ARJUNA W. & A. (249)

Family: *Combrataceae*

Local Name: arjuna.

English Name: Arjun Tree.

Uses: The bark is cooling, astringent, tonic, febrifuge, cardiac stimulant, lithontriptic, cholagogal and vulnerary; it is a valuable remedy for heart diseases; as a cardiac tonic either a decoction of the thick bark made with milk is given every morning on an empty stomach or its powder, in 10 to 30 grain doses, with milk and *gur;* the powder is given with honey in fractures and contusions with ecchymosis; a decoction of the bark is given, in doses of half to one ounce, in bilious disorders, diarrhoea, dysentery, sprue and haemorrhage. As an astringent the decoction is used for cleaning sores, ulcers, chancres etc.; an ointment made of the bark with honey is efficacious for the cure of acne.

225. TERMINALIA BELERICA ROXB. (250)

Family: *Combrataceae*

Local Names: bahera, vibhitaka.

English Name: Beleric Myrobalan.

Uses: The ripe, dry fruit, known as beleric myrobalan, is astringent, tonic and laxative; it is given in piles, diarrhoea, fever and dropsy; a decoction or infusion of 15 to 40 grains of the pulp of the fruit is administered; a mixture of the pulp of the fruit, salt, long pepper and honey is a household remedy for cough, hoarseness of voice, sore throat and dyspepsia; the fried fruit roasted after covering it with a wheat flour paste is another popular remedy for sore throat, cough and catarrh; as a purgative half a ripe fruit is used.

226. TERMINALIA CHEBULA RETZ . (253)

Family: *Combratacea*

Local Names: haritaki, hirda.

English Name: Chebulic Myrobalan.

Uses: The fruit is the chebulic myrobalan of commerce; it is a mild, safe and efficacious laxative, astringent, stomachic, tonic

and alterative; the pulp of the fruit is given in piles, chronic diarrhoea, dysentery, costiveness, flatulence, asthma, urinary disorders, vomiting, hiccup, intestinal worms, ascites, enlarged spleen and liver etc.; as a mild laxative either the pulp of two or three fruits with a little rock salt or a decoction of six fruits and one drachm of cloves or cinnamon is given daily at bed time; in dysentery and diarrhoea one drachm of the pulp of the unripe fruit is given with honey and aromatics twice a day.

A fine powder of the fruit is used as a dust over chronic ulcers and wounds and as a dentifrice in case of carious teeth and bleeding ulceration of the gums; a decoction of the fruit is useful as a gargle in stomatitis, as a wash for bleeding piles and as a douche in case of vaginal discharges; a paste of the fruit made with carron oil is an excellent dressing for burns, scalds and piles.

The bark is a useful cardiac tonic.

227. TERMINALIA TOMENTOSA W. & A.

Family: *Combrataceae*

Local Names: asana, saradru.

Description: A large tree; twigs villous. Leaves leathery, villous on the under surface, linear oblong obtuse, with two large glands on the midrib; nerves many, parallel. Flowers in large, villous panicles; calyx villous with yellowish brown hairs. Fruit large, glabrous, with 5 equal wings.

Distribution: Throughout India and Pakistan.

Uses: The bark is astringent, cardiac tonic, diuretic and styptic; it is useful in ulcers, haemorrhages, fractures, bronchitis, leucorrhoea, gonorrhoea, diarrhoea, dysentery, heart diseases and calculi; a decoction of the bark is given in retention of urine, gonorrhoea, leucorrhoea, ecchymosis, spitting of blood from the chest, diarrhoea and dysentery; in heart diseases a powder of the bark is given with *ghee* and a gruel made of wheat flour; medicated *ghee* prepared with the powder is equally efficacious; in case of a fracture the bark is given with milk. Locally a decoction of the bark is used for washing ulcers, wounds, contusions, suppurating ears and ecchymoses.

228. THESPESIA POPULNEA SOL. (256)

Family: *Malvaceae*

Local Names: paras, piplo, parish.

English Names: Portia Tree, Tulip Tree.

Uses: A poultice of the leaves is applied over eczema of children, scabies and other skin diseases; the leaves are used over swollen and inflamed joints; the leaf juice has the same uses as the juice of the fruit.

The stem bark is astringent and alterative; its decoction is given in two to four ounce doses twice a day in dysentery, piles and skin diseases.

A decoction of the bark is an efficacious wash for treating skin diseases; a medicated oil prepared by boiling the bark with cocoanut oil is equally useful; the juice extracted from the stem is locally used in herpes.

The yellow, acrid juice of the fruit is an efficacious dressing for skin diseases and for the removal of warts; the pulp of the fresh fruit is locally used for relief of migraine. The yellow juice extracted from the fruit stalk is used over sprains, burns, skin diseases, fistula, inflamed joints and insect bites.

229. TINOSPORA CORDIFOLIA MIERS.

Family: *Menispermaceae*

Local Names: amruta, goodoochee, guranch.

English Name: Heart-leaved Moonseed.

Description: A large twiner; stem succulent; bark light grey, papery at first and later corky. Leaves cordate, long stalked. Flowers on nodes on the old wood, in racemes, dioecious, very small, yellow. Drupes sessile, red, very small.

Distribution: Throughout tropical India and Pakistan.

Uses: The fresh plant is considered more efficacious than the dried plant; it is antiperiodic, alterative, tonic, hepatic stimulant and diuretic; its watery extract, known as Indian quinine, is very effective in ordinary fevers due to cold or indigestion; the plant is commonly used in rheumatism, urinary diseases, dyspepsia, general debility, syphilis, skin diseases, biliousness,

piles, bronchitis, spermatorrhoea, impotence, jaundice and torpidity of liver; an infusion of the plant is given in one and a half to three ounce doses thrice a day; the juice of the fresh plant is administered in two to four drachm doses, with long pepper and honey, in gonorrhoea, cough and chronic fever; as a general tonic the fresh juice is given with milk.

The fecula prepared from the roots and stem, known as *galo satva* or *gudunchi satva*, is a highly valued drug for intermittent fevers, chronic diarrhoea, some forms of chronic dysentery, secondary syphilis, chronic gonorrhoea, leucorrhoea, jaundice and rheumatism.

A necklace made of small pieces of the stem, known as *kamlani-mala*, is usually worn in some parts of India as a cure for jaundice; a paste of the plant is plastered over a fractured bone.

The root is used in the same way as the stem.

230. TODDALIA ASIATICA LAMK.

Family: *Rutaceae*

Local Names: dahan, kanj.

English Names: Forest Pepper, Lopez-root Tree.

Description: A very variable, evergreen plant, armed with recurved prickles. Leaves alternate; leaflets 3, sessile, gland dotted. Flowers in axillary or terminal cymes, unisexual, white; calyx glandular, 5-lobed; petals 5. Fruit fleshy, globoid, grooved, orange coloured.

Distribution: Kumaon Hills, Bhutan, Khasi Hills and Peninsular India.

Uses: The plant contains the alkaloids berberine, toddaline and toddalinine. It is a well known febrifuge and tonic; as a bitter tonic it is given in debility and convalescence; as a stomachic tonic it improves appetite and aids digestion; it is also a vulnerary.

The leaves are used as antiperiodic and antipyretic in the same way as the root-bark.

The root-bark is the Lopez root of commerce; it is an aromatic tonic, antiperiodic and antipyretic; its antiperiodic proper-

ties are considered to be equal, if not superior, to those of quinine and other cinchona alkaloids; it is of special value in malaria, particularly in mild cases of malaria, and hill and jungle fevers; a weak infusion prepared with boiling water is given in doses of one to two ounces two or three times a day; or half to one drachm of the fluid extract of the root-bark is given; the infusion is also a carminative, diaphoretic, stimulant and tonic; it is given in diarrhoea, constitutional debility and convalescence after fever.

231. TRACHYSPERMUM AMMI SPRAGUE *

Family: *Umbelliferae*

Local Names: ajowan, yamani.

English Names: Bishop's Weed, Omum.

Description: A small erect shrub, minutely pubescent; stem much branched, leafy. Leaves 2-3-pinnate, ultimate segments linear, about 1 in. long. Floral bracts many, linear; ray flower heads 4-12, each bearing 6-16 flowers. Fruit minute ovoid.

Distribution: Common in West Asia; widely cultivated.

Uses: The juice of non-flowering plants is a vermicide. A poultice of the leaves is applied to bites of insects.

The seeds are a rich source of thymol; they are carminative, stimulant, antispasmodic; they are given in flatulence, colic, atonic dyspepsia, diarrhoea, cholera, tympanites, hysteria, etc.; for relief of flatulence, dyspepsia and spasmodic disorders the seeds are eaten with betel leaves; a teaspoonful of the seeds with a little rock salt is a household remedy for indigestion; a mixture of the seeds and buttermilk is a common remedy for relieving difficult expectoration caused by dried up phlegm; the seeds are efficacious in relaxed sore throat and bronchitis and habitual drunkenness. A paste of the seeds is locally applied for relieving colic pains; a hot dry fomentation with the seeds is a household remedy for asthma; for relief of migraine, dele-

* This plant in the first edition of this book was named *Carum copticum* Benth .& Hook.; this plant is now known as *Trachyspermum ammi* Sprague.

ruim and similar other disorders they are either smoked or are sniffed from time to time.

The volatile oil extracted from the seeds is used in cholera, flatulent colic, diarrhoea, atonic dyspepsia, indigestion, hysteria and griping due to purgatives; it is usually given in doses of one to three drops. The oil is locally used for relief of rheumatic and neuralgic pains.

Omum water, the water distilled from the seeds, is an excellent carminative and antispasmodic in colic and flatulent dyspepsia; it is also administered in early stages of cholera to check vomiting and purging; it is given in doses of one or two ounces.

232. TRAGIA INVOLUCRATA LINN.

Family: *Euphorbiaceae*

Local Names: bichhva, dhumpushpa, kanchuri.

Description: An evergreen climber, clothed with stinging bristles; foliage variable. Leaves simple, thickish, oblong cordate, apex pointed in young leaves, rounded in older leaves, 4 in. long, 3 in. broad, serrated, covered with stinging hairs. Flowers in long racemes, monoecious; male flowers uppermost, each with a bract, white and green; female flowers below the male flowers, calyx with 4-6 pairs of hairy teeth; petals absent. Capsules round.

Distribution: Throughout India and Pakistan.

Uses: The root is a reputed diaphoretic and alterative; its infusion is given in doses of half a teacupful twice a day; it is also used when the patient suffering from fever has cold extremeties and pains in the legs and arms; a decoction of the root is efficacious in bronchitis with fever.

A paste of the root is locally used for extracting guinea-worms; the paste made with the juice of *tulsi* (Holy Basil) is an efficacious dressing for itching eruptions on the skin; the root is an important constituent of some ointments used in leprosy.

A paste of the fruit made with a little water rubbed on the bald head promotes growth of hair.

233. TRIBULUS TERRESTRIS LINN.

Family: *Zygophyllaceae*

Local Names: chhota gokhru, gokhrura, gokshur.

English Name: Small Calthrops.

Description: A pretty, prostrate, grey, hairy herb. Leaves evenly branched; leaflets 6-12, oblong, silky, very small. Flowers axillary, solitary, yellow, about 1 in. across. Fruit large, 5-angled, woody, each lobe with 2 long, sharp, hard, forked spines.

Distribution: Throughout India and Pakistan.

Uses: This plant has exactly the same pharmaceutical properties and uses as *Pedalium murex* (see page 126, No. 176).

234. TRICHOSANTHES CUCUMERINA LINN.

Family: *Cucurbitaceae*

Local Names: katu patol, patol, van patol.

Description: An annual climber; tendrils trifid. Leaves deeply 5-lobed, toothed. Flowers irregularly divided into narrow, short lobes, small, white, dioecious; male flowers in racemes; female flowers solitary. Berries up to 3 in. long, spindle shaped, smooth, orange or scarlet coloured when ripe, green and striped when immature.

Distribution: Throughout India and Pakistan.

Uses: The plant is a cardiac tonic, alterative, and antifebrile; its decoction is given in bilious fevers as a febrifuge and laxative; its efficacy is increased if it is given with chiretta and honey; in obstinate cases of fever a combined infusion of this plant and of coriander is efficacious; 180 grains of each are infused together in water overnight; the strained liquid is given with honey in two parts the next day; a decoction or infusion of the plant is an efficacious remedy for boils and worms.

The leaves are a febrifuge, laxative and emetic; a decoction of the leaves made with the addition of coriander is given in bilious fever; the leaf juice is used as an emetic.

The leaf juice is locally applied as a liniment if the liver is congested; in remittent fever it is applied over the whole body; the juice is rubbed over the head for the cure of alopecia.

The root is a purgative and tonic; its juice is a strong purgative; but it has a strong irritant action on the gastro-intestinal system.

An infusion of the dried fruit is an aperient; it also aids digestion.

The seeds are antifebrile and anthelmintic.

The allied species *Trichosanthes dioica* Roxb. (*parval, patol*) has the same medicinal properties and uses as *T. cucumerina*.

235. TRIGONELLA FOENUM-GRAECUM LINN.

Family: *Leguminosae*

Local Names: methi, methica. Vendiam.

English Name: Fenugreek.

Description: An erect, strongly scented, robust, 1-2 ft. high annual. Leaves compound; 3/4-1 in. long; stipules entire; leaflets 3, lanceolate, or obovate, toothed. Flowers axillary, 1-2 sessile, yellow. Pods 2-3 in. long, thin, pointed, 10-20 seeded; seeds emitting a peculiar odour, brownish yellow, having an oblique furrow along a part of their length.

Distribution: Throughout India and Pakistan.

Uses: A poultice of the herb is applied to reduce swellings; a pessary made of the herb or of lint saturated with its decoction is used for the treatment of leucorrhoea.

The leaves are aperient; they relieve indigestion and bilious disorders.

A paste of the leaves is applied over swellings and burns; it is a hair tonic and is applied to the head to prevent premature loss of hair.

The seeds contain the alkaloid trigonelline; they are demulcent, emmenagogue, aromatic, diuretic, nutritive, tonic, lactagogue, emollient, astrigent, carminative and aphrodisiac; they are eaten, boiled or roasted, as a vegetable in dyspepsia, diar-

rhoea, especially in diarrhoea of a lying-in mother, dysentery, colic, flatulence, rheumatism, dropsy, enlargement of the liver and spleen and chronic cough; a decoction of the roasted seeds is prescribed in disorders of the throat and the chest; as a lactagogue a gruel of the seeds is given with milk and sugar; a decoction of the seeds is a useful drink when the stomach and the intestines are inflamed; the seeds are an effective substitute for cod liver oil; they are therefore prescribed in scrofula, anaemia, gout, diabetes and debility; a powder of the seeds is given in one to two teaspoonful doses.

A paste of the seeds is used as a cosmetic to keep the skin soft and clean; a poultice of the seeds is applied to reduce swellings and inflammatory affections; their paste is a useful hair tonic; the mucilage produced when they are soaked in water is locally used over boils, carbuncles, abscesses, etc.

236. TRITICUM AESTIVUM LINN.

Family: *Graminae*

Local Names: gehun, godhum.

English Name: Wheat.

Description: A tufted, annual grass. Leaves flat, with or without hairs on one or both surfaces; leaf sheaths striped; appendages at the junction of the sheath and the blade lacerated and membranous. Spikes with or without hairs; awns present or absent; spikets 2-ranked, compressed; grains usually 3 in each spikelet, oblong, swollen, grooved vertically on one face, hairy.

Distribution: Throughout India and Pakistan.

Uses: Wheat bran is demulcent and emollient; bran bread is beneficial for dyspeptic and diabetic patients.

A hot poultice of the bran is locally applied in acute congestion of the chest and abdomen, premonitary symptoms of croup in children and severe local pains, spasmodic or inflammatory; an infusion or decoction or the bran is an excellent bath for the treatment of skin diseases.

Wheat meal is nutritive, restorative and demulcent; to check profuse menstruation and leucorrhoea it is given as a gruel; with sugar and milk it is given in bleeding of the nose; mixed with

water it is given as an antidote in case of metal and iodine poisoning.

Wheat flour is an efficacious dusting powder for burns, scalds, erysipelas, itching, skin eruptions, etc.; it also makes a useful yeast poultice; the paste made by boiling wheat flour with vinegar is useful for removing freckles.

237. TYLOPHORA ASTHMATICA W. & A.

Family: *Asclepiadaceae*

Local Names: antamul, jangli pikvan.

English Name: Country Ipecacuanha.

Description: A twining perennial, with numerous, long, fleshy roots; stems elongate, smooth or hairy. Leaves opposite, variable, lower surface, hairy, up to 4 in. long, about 2 in. broad. Flowers in umbellate cymes; corolla greenish yellow or greenish purple. Follicles smooth, lanceolate, sharp pointed, 3-4 in. long; seeds ovate.

Distribution: Pakistan and Eastern and Southern India.

Uses: The leaves and roots contain the alkaloid tylophorine which is similar in action to ipecacuanha.

The dried leaves are emetic, expectorant, diaphoretic, alterative, blood purifier and stimulant; they are the best indigenous substitute for ipecacuanha; in half drachm doses they are emetic; in smaller doses of three to five grains they are given three times a day as an expectorant and diaphoretic, often with a little opium; in asthma, bronchitis, catarrh, early stages of whooping cough and other respiratory diseases the leaves are given three times a day or oftener in five grain doses; a decoction of the leaves is an efficacious remedy for dysentery and diarrhoea; the leaves are given to promote lochia.

The roots are used in the same way as the leaves; in small repeated doses they are used as a cathartic; in larger doses as an emetic; half a teacupful of an infusion of the roots induces vomiting in children who cannot bring up phlegm after coughing; as an expectorant the infusion is given in chronic bronchitis; the roots are given in loss of appetite, fever, skin diseases, syphilis and leucorrhoea; they are a good substitute for sarsaparilla.

238. URGINEA INDICA KUNTH.

Family: *Liliaceae*

Local Names: jangli kanda, jangli piyaz, patalu.

English Name: Indian Squill.

Description: A bulbous, glabrous plant. Bulb ovoid, long, thick, white. Leaves numerous, lanceolate 6-18 in. long, up to 1 in. wide, glabrous. Flowers remote, stalked, drooping or spreading, in slender, long racemes, appearing before the leaves; main stalk 12-18 in. long, erect, stout, brittle; perianth bell shaped, 6 unequal segments, white or greenish white, with 3 green ribs, tips recurved. Capsules 3-celled; seeds 6-9 in each cell, flattened, black.

Distribution: Western Himalayas and Western Peninsula.

Uses: Of medicinal value is only the bulb that is young and enclosed in its membranous jackets and which is freshly dried; in therapeutic value it is considered equivalent to the European squill (Urginea scilla).

In small doses the bulb is expectorant, stimulant, digestive, diuretic, deobstruent and emmenagogue; in large doses it is an acrid poison, emetic and cathartic; it is given in asthma, dropsy, rheumatism, calculous affections, chronic Bright's disease, leprosy and skin diseases; its juice is given with honey in bronchial catarrah and chronic bronchitis; as a diuretic the bulb is given in cardiac dropsy.

For removing warts a powder of the bulb is locally used; for removing corns a poultice of the roasted bulb is applied.

239. URTICA DIOICA LINN.

Family: *Urticaceae*

Local Names: bichu, chicru.

English Names: Nettle, Stinging Nettle.

Description: An erect herb, clothed with down and stinging, bristly hairs; stems 2-3 ft. high, grooved. Leaves long stalked, opposite, ovate, lanceolate or cordate, 2-4 in. long, tapering to a long point at the apex, thin, regularly toothed. Flowers usually

dioecious, green, clustered on drooping, axillary panicles. Achenes flat, enclosed in the persistent perianth.

Distribution: North-West Himalayas.

Uses: The plant is diuretic, astringent, emmenagogue, haemostatic, anthelmintic, lithotriptic and antiperiodic; it is usually given as a decoction; it is a household remedy for kidney diseases and haemorrhages, especially from the uterus and kidneys, consumption and jaundice; fresh nettle tea made from young tops is given in intermittent fevers, ague, gravel in the kidneys and excessive menstrual flow; its juice, in one to two tablespoonful doses, is very effective in checking bleeding from the nose, lungs, uterus and other internal organs; a syrup made of the herb is a cure for nettle rash and similar eruptive diseases.

The pulverized dry herb is used as snuff to check bleeding from the nose.

The seeds are diuretic, astringent and tonic.

240. VATERIA INDICA LINN. (263)

Family: *Dipterocarpaceae*

Local Names: dhup, dhup paini, pitphala.

English Names: Indian Copal Tree, Piney Varnish Tree.

Uses: The resin that exudes from the trunk is a specific for gonorrhoea; four drachms of the resin mixed with sesame oil are given twice a day.

An ointment made by boiling over a slow fire five ounces of the resin, two ounces of wax and eight of kokum butter is very efficacious for carbuncles and similar other skin diseases.

Piney oil or piney tallow, the fatty oil extracted from the seeds, is a well known local dressing for chronic rheumatism and other painful inflammations.

241. VERNONIA ANTHELMINTICA WILLD.

Family: *Compositae*

Local Names: avalguja, kali jira, somraj.

English Names: Purple Fleabane, Wild Cumin.

Description: A tall, coarse, stout, leafy annual. Leaves alternate, stalked, 3-8 in. long, membranous, coarsely toothed. Flower heads purple, small. Fruit very small, truncate, 10-ribbed, hairy pappus reddish.

Distribution: Throughout India and Pakistan.

Uses: The seeds are valued for the treatment of skin diseases and as an anthelmintic; they are also alterative, astringent, febrifuge and diuretic; they are given in cough, fever, dropsy and flatulence; for the treatment of round worms either two to three drachms of the crushed seeds are given with honey in two equal doses, followed by an aperient; or an infusion of 20-25 grains of the powdered seeds is given; this infusion is also used as a tonic, diuretic and stomachic; for skin diseases like leucoderma, psoriasis etc., the seeds are used alone or with other drugs; a drachm of a mixture containing equal parts of the powdered seeds and black pepper is taken every morning with warm water; a paste made of four parts of the seeds and one part of orpiment with cow's urine is also applied locally in leucoderma; as stomachic, tonic and diuretic the seeds are given in 10 to 30 grain doses.

The resin extracted from the seeds is very efficacious for the treatment of threadworms, but not for roundworms; it is given in doses of five to 10 grains.

242. VERNONIA CINERIA LESS.

Family: *Compositae*

Local Names: sadodi, sahadevi.

English Name: Ash-coloured Fleabane.

Description: A herbaceous plant, rather weak, very variable in habit and foliage, erect or prostrate. Leaves variable, smooth or hairy; margins waxy, toothed. Flower heads in corymbs; flowers bisexual, pink or lilac, tubular. Achenes having white, silky tufts of hairs, smooth.

Distribution: Throughout India and Pakistan.

Uses: The herb is alterative, bitter tonic, anthelmintic and diaphoretic; its infusion or decoction is given in half to one ounce doses in febrile diseases; in incontinence of urine in children the infusion is given; a juice of the herb is administered in piles.

The fresh juice of leaves, in one to two drachm doses, is given in dysentery. A poultice of the leaves is locally applied for the extraction of guinea-worms.

The roots are bitter, anthelmintic and diuretic; they are given in doses of 15 to 60 grains.

The seeds are popularly used as an anthelmintic, especially for threadworms; either their powder is given in 30 to 60 grain doses or an infusion of 10 to 30 grains of the powder; the seeds are also valuable as a tonic and stomachic, the dose being 20 to 25 grains; they are given in intestinal colic, dysuria, flatulence and cough; the seeds are an efficacious remedy for skin diseaseas like leucoderma, psoriasis etc.; they are given with honey in one to two drachm doses; a mixture of equal parts of the seeds and black pepper is equally efficacious; about a drachm of the mixture is taken with tepid water in the morning; the treatment has to be continued for a year; the seeds are also used as an antidote.

A paste of the seeds is used locally in skin diseases and for destroying head lice.

The roots are used as an anthelmintic and diuretic in doses of 15 to 60 grains.

243. VIOLA ODORATA LINN. (267)

Family: *Violaceae*

Local Name: banaf shah.

English Name: Violet.

Uses: The herb is diaphoretic and antipyretic; its infusion is an excellent febrifuge. Its paste is locally used in eczema.

The fresh leaves are a reputed drug for the treatment of cancer; they relieve pain of cancerous growths, especially in the throat; two and a half ounces of the fresh leaves are infused in a pint of boiling water in a covered stone jar for 12 hours; the strained liquid is taken in the course of a day, in doses of a wineglassful at a time; for the treatment of cancer of the tongue only half the quantity is taken in a day; the other half is used to foment the tongue; a liquid extract of the fresh leaves, in teaspoonful doses, is equally efficacious. On cancerous growths either the hot infusion or an extract of the fresh leaves is applied as a compress.

The underground stem is emetic and purgative; it contains the alkaloid violine; the stem is a valuable substitute for ipecacuanha; it is given in doses of 40 to 50 grains as an emetic; an infusion made with two ounces of the stem acts as a purge and emetic; its juice causes nausea, vomitting and "nerves".

The flowers are emollient, demulcent, astringent, diaphoretic, diuretic and laxative; they are given in bilious affections, epilepsy, nervous disorders, prolapse of the rectum and the uterus and inflammatory swellings; the flowers are popularly used as a diaphoretic and for the treatment of coughs, sore throat, kidney diseases, liver disorders and infantile affections; the flowers are used either as an infusion, one part in 100 parts of water, or as a syrup in 30 to 50 gram doses, or as a preserve in 15 to 30 gram doses; in large doses the flowers are emetic.

244. VITEX NEGUNDO LINN. (269)

Family: *Verbenaceae*

Local Names: indrani, nirgundi, nilpushpi.

English Name: Indian Privet.

Uses: The leaves are aromatic, tonic, febrifuge, diuretic, emmenagogue, anthelmintic, expectorant and discutient; their decoction is given with long pepper in catarrhal fever; as a febrifuge a paste of the tender leaves mixed with black pepper is given when fever comes on; 90 grains of the leaf juice is given with *ghee* and black pepper in rheumatism; a mixture of 360 grains each of the juice and cow's urine is administered every morning in enlargement of the spleen.

For relief of headache and catarrh either dry leaves are smoked or pillows stuffed with dry leaves are used or a paste of the leaves is applied to the temples; the leaves are an excellent discutient; the ash of fresh leaves is applied to sprains, inflamed testicles, contusions, inflammatory swellings of joints, enlarged liver and spleen, rheumatic joints etc.; a poultice of the leaves is equally efficacious for these diseases; the leaf juice is used for cleaning ulcers; an ointment made of the juice is a hair tonic; a medicated oil, prepared with the leaves is used over sinuses, scrofulous ulcers and sloughing wounds.

The roots are tonic, febrifuge, anthelmintic, demulcent, diuretic and expectorant; they are given in colic, dyspepsia, rheumatism, worms, skin diseases, fevers, bladder complaints, dysentery and piles.

The flowers are astringent and cardiac tonic; they are used in diarrhoea, cholera, fever, haemorrhage of the digestive system and liver complaints.

245. WITHANIA SOMNIFERA DUN.

Family: *Solanaceae*

Local Names: asgandh, asvagandha.

English Name: Winter Cherry.

Description: An erect, branching plant, 1-5 ft. high, wholly covered with white stellate hairs. Leaves ovate, up to 4 in. long. Flowers bisexual, greenish or lurid yellow, in clusters of about 25 forming umbellate cymes. Berries partially enclosed in the enlarged calyx, red, globose; the part outside the calyx pubescent; seeds yellow, scurfy.

Distribution: India, Baluchistan, the Punjab and Sind.

Uses: The leaves are anthelmintic and febrifuge. A fomentation of the leaves is used for sore eyes, boils and swollen hands and feet; a paste of the leaves is locally applied to kill lice infesting the body and over curbuncles and syphilitic sores; an ointment prepared by boiling the leaves in fat is useful for bedsores and wounds.

The root contains the alkaloid somniferine. The root is a tonic, stimulant, alterative, aphrodisiac, narcotic, diuretic, abortifacient and deobstruent; it is given in 30 grain doses in general debility, rheumatic affections, dyspepsia, consumption, loss of appetite, cough and dropsy; half to one drachm of the root with milk or *ghee* is given as an aphrodisiac; 45 grains of the powdered root are given with sugar candy twice a day in leucorrhoea, bloody discharges from the uterus etc.; half to one drachm of the powder is given daily with sugar, honey, long pepper and *ghee* in spermatorrhoea, debility etc. The root is very efficacious for toning up the uterus of women who habitually miscarry; a decoction of the root is used with long pepper, *ghee* and honey in scrofula

and consumption; for chest complaints and colds a decoction is recommended.

A paste made of the roots and leaves is applied over carbuncles, ulcers and swellings; a warm paste of the fresh roots is used over scrofulous and other glandular swellings.

The berries and seeds are diuretic; they are given in chest complaints.

246. WOODFORDIA FRUCTICOSA KURZ. (270)

Family: *Lythraceae*

Local Names: dhataki, dhavi.

Uses: The dried flowers are astringent and tonic; two drachms are given with curdled milk in dysentery and other bowel complaints and internal haemorrhages; they are a safe stimulant in pregnancy; they are given in leucorrhoea, menorrhagia, piles, liver complaints and diseases of mucous membranes. A powder of the dry flowers or their decoction is applied over foul ulcers and wounds.

247. XANTHIUM STRUMARIUM LINN.

Family: *Compositae*

Local Names: arista, banokra, shankeswar.

English Names: Bur-weed, Cocklebur.

Description: A coarse annual. Leaves cordate, or 3-lobed, covered with rough hairs, toothed. Flowers bisexual or monoecious; bisexual flowers in the upper axils, sterile; male flowers dull purple, tubular; female flower heads below the male ones, florets 2, corolla absent. Achenes 2 to each head, ovate, clothed with strong hooked spines, surrounded by the 2-beaked hardened covering of bracts.

Distribution: Throughout India and Pakistan.

Uses: The plant contains the glucocide xanthostrumarin. The herb is astringent, emollient, sedative, diuretic, sialagogue, antiscrophulous and strongly diaphoretic; its decoction is specially

given in long standing malarial fever; it is given in half to one ounce doses; this decoction is also efficacious for gleet, leucorrhoea, menorrhagia and diseases of the urinary system.

The leaves are given in scrofula and herpes in doses of 10 grains.

The fruit is tonic, diuretic, diaphoretic, sedative, cooling and demulcent.

248. ZINGIBER OFFICINALE ROSC.

Family: *Zingiberaceae*

Local Names: ardrakh, sonth.

English Name: Ginger.

Description: A perennial. Root-stock horizontal, tuberous, aromatic. Stem elongated, leafy. Leaves linear, sessile, lower part surrounding the stem, 5-13 in. long, smooth. Flower spikes terminating the leafy system, up to 3 in. long; stalks slender, enveloped by membranous, 1 in. long bracts; corolla greenish yellow, lip dark purple, often spotted yellow, 3-lobed.

Distribution: Throughout India and Pakistan.

Uses: The underground stem is the ginger of commerce; it is stimulant, carminative, stomachic, expectorant, rubefacient and sialagogue; it is a valuable drug for disorders of the digestive system, rheumatism, piles, pulmonary and catarrhal diseases, dropsy, febrile diseases, neuralgia, urticaria etc.; with cathartics it is given to check nausea and griping; taken with salt before meals it is an excellent carminative; ginger tea is an efficacious drink in ailments such as colds, influenza etc.; it also promotes gentle perspiration, relieves flatulence, increases mucous secretion of the lungs and promotes menses in amenorrhoea due to cold; the juice of fresh ginger, in half to two fluid drachm doses, with honey is a domestic remedy for coughs and asthma; the juice is given in dropsy as a strong diuretic; in dyspepsia, flatulence, colic, vomiting, want of appetite and similar diseases of the digestive system, dry ginger is given in 10 to 30 grains or its infusion in one to two ounce doses many times a day to adults; and a tablespoonful to children; for chronic rheumatism, colds and catarrhal affections, a hot infusion of two drachms of ginger is taken at bed time; ginger is chewed to

stimulate the flow of saliva, to warm and tone the stomach, to relieve toothache and hoarseness of voice, to restore loss of voice, to relax the congested uvula and tonsils and the paralysed muscles of the tongue and fauces. A paste of ginger is a local stimulant and rubefacient in headache, toothache and short sight due to deficient contractile power of the iris; ginger powder rubbed on the extremities of the limbs checks cold perspiration and improves blood circulation in the collapse stage of cholera.

249. ZIZUPHUS JUJUBA LAM. (274)

Family: *Rhamnaceae*

Local Names: badri, ber.

English Names: Indian Plum, Jujub Tree.

Uses: The leaves boiled in milk are given in virulent gonorrhoea.

An infusion of the leaves is used as an eye lotion in conjunctivitis; a paste of the tender leaves and twigs is applied to boils, carbuncles and abscesses to promote suppuration; the boiled leaves are applied over the navel and the pubic region in dysuria.

The bark is bitter and astringent; it is a household remedy in diarrhoea, dysentery, colic and inflammation of the gums.

The berries are a blood purifier and an aid to digestion; they are pectoral and styptic; the dried ripe fruit is a mild laxative and expectorant. Seeds are given with buttermilk in bilious disorders. An ointment made of the seeds with some bland oil is locally used as a liniment in rheumatism.

APPENDIX I

Classification of plants according to their Therapeutic Uses. (*Note*: The numbers given in this Appendix refer to the serial numbers of the plants described.)

Abortifacients—9, 31, 32, 33, 36, 37, 46, 62, 63, 66, 68, 92, 107, 127, 145, 160, 167, 168, 177, 184, 186, 187, 195, 199, 202, 206, 207, 209.

Alteratives—17, 21, 23, 24, 25, 27, 29, 32, 34, 35, 37, 41, 49, 50, 54, 62, 63, 66, 72, 73, 74, 75, 77, 80, 89, 97, 104, 106, 108, 123, 124, 125, 129, 132, 136, 138, 141, 142, 145, 153, 154, 155, 163, 177, 183, 190, 191, 199, 200, 204, 205, 206, 210, 211, 212, 214, 217, 223, 226, 228, 229, 232, 234, 237, 238, 244.

Anodynes—61, 64, 101, 102, 110, 111, 115, 116, 138, 160, 171, 174, 177, 195, 211, 212.

Anthelmintics*—2, 3, 7, 10, 12, 17, 21, 22, 23, 25, 28, 29, 31, 33, 34, 36, 38, 39, 40, 46, 49, 58, 59, 60, 62, 63, 65, 66, 68, 69, 72, 73, 79, 81, 82, 85, 86, 92, 95, 97, 100, 101, 105, 108, 109, 110, 111, 116, 121, 123, 124, 127, 128, 134, 137, 149, 150, 152, 154, 155, 156, 158, 160, 161, 163, 165, 168, 169, 170, 171, 172, 173, 177, 182, 190, 191, 192, 194, 198, 201, 203, 205, 206, 207, 208, 212, 214, 217, 220, 222, 223, 226, 231, 232, 234, 241, 242, 244, 245.

Antiasthmatics—7, 9, 10, 12, 13, 15, 21, 40, 43, 46, 52, 59, 62, 63, 64, 91, 92, 101, 102, 106, 113, 116, 120, 125, 134, 137, 138, 143, 145, 159, 160, 164, 173, 177, 179, 183, 198, 201, 203, 205, 212, 217, 226, 237, 238, 239, 245, 248.

Antibilious Drugs—6, 13, 38, 45, 50, 51, 52, 54, 69, 86, 90, 98, 109, 115, 118, 122, 134, 158, 169, 174, 175, 192, 193, 195, 202, 210, 214, 217, 220, 224, 225, 226, 235, 243, 245, 248, 249.

Antidiabetics—24, 27, 54, 58, 70, 71, 72, 74, 95, 109, 117, 118, 131, 150, 163, 190, 215, 219, 235.

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* This list includes plants used for extracting guinea-worms.

Antidotes—2, 10, 17, 23, 25, 27, 28, 37, 40, 43, 44, 54, 90, 107, 115, 138, 163, 184, 203, 220, 223, 224, 242.

Antidiarrhoeics and Antidysenterics—3, 4, 5, 9, 10, 12, 13, 16, 25, 31, 34, 37, 45, 46, 48, 50, 51, 52, 56, 57, 58, 62, 63, 65, 74, 75, 76, 77, 83, 84, 86, 93, 95, 98, 100, 103, 109, 111, 115, 122, 127, 130, 131, 132, 133, 134, 141, 145, 148, 150, 153, 155, 159, 162, 163, 164, 166, 170, 171, 175, 179, 180, 182, 184, 185, 187, 189, 190, 193, 194, 195, 199, 200, 202, 203, 204, 207, 208, 210, 211, 213, 216, 217, 218, 219, 220, 221, 226, 228, 244, 246, 248, 249.

Antiemetics—24, 40, 44, 50, 51, 60, 64, 76, 83, 109, 117, 132, 162, 166, 170, 174, 184, 212, 215, 217, 220, 226, 248.

Antilithics—10, 14, 17, 33, 34, 40, 44, 57, 58, 77, 89, 99, 105, 109, 115, 127, 132, 134, 138, 144, 152, 155, 160, 176, 177, 194, 196, 200, 223, 224, 227, 233, 238, 239.

Antiparasitics—6, 10, 12, 28, 31, 36, 44, 64, 79, 92, 124, 129, 152, 177, 189, 203, 205, 240, 241, 242, 245.

Antiperiodics—See Febrifuges.

Antiphlogistics—2, 3, 11, 12, 18, 21, 35, 38, 39, 40, 47, 53, 54, 55, 58, 59, 67, 75, 85, 86, 90, 95, 101, 102, 106, 111, 118, 129, 132, 145, 148, 154, 155, 160, 167, 180, 182, 185, 189, 193, 198, 201, 208, 213, 219, 235, 236, 244, 245, 247.

Antipyretics—See Febrifuges.

Antiscorbutics—4, 13, 27, 52, 60, 66, 109, 115, 122, 145, 150, 158, 160, 163, 175, 190, 191, 195, 196, 201, 209, 210, 235.

Antiseptics—12, 21, 38, 44, 52, 57, 76, 83, 84, 85, 86, 171, 181, 182, 183, 189, 202, 205, 206, 220.

Antispasmodics—8, 10, 12, 15, 30, 32, 40, 41, 43, 44, 53, 56, 62, 63, 64, 88, 91, 98, 101, 102, 106, 116, 134, 142, 152, 154, 160, 165, 176, 177, 195, 199, 205, 206, 226, 231, 239.

Aperients—See Purgatives.

Aphrodisiacs—2, 3, 10, 19, 21, 23, 24, 26, 32, 33, 35, 41, 42, 46, 58, 64, 74, 88, 81, 101, 102, 121, 127, 142, 145, 160, 161, 163, 176, 179, 182, 192, 195, 200, 205, 208, 210, 215, 229, 233, 235, 245.

Aromatics—8, 10, 12, 13, 15, 18, 24, 30, 76, 88, 89, 95, 96, 101,

102, 107, 115, 153, 159, 165, 170, 171, 181, 182, 184, 201, 205, 235, 237, 244, 248.

Astringents—4, 5, 8, 9, 11, 13, 15, 18, 22, 23, 25, 31, 32, 33, 41, 48, 49, 50, 52, 55, 56, 57, 58, 59, 61, 64, 74, 76, 77, 79, 83, 84, 85, 86, 87, 88, 93, 99, 100, 101, 102, 103, 105, 109, 114, 115, 117, 118, 119, 120, 122, 131, 134, 139, 142, 143, 144, 146, 148, 149, 150, 154, 161, 163, 164, 166, 169, 174, 180, 182, 185, 189, 190, 191, 193, 194, 195, 199, 202, 203, 204, 205, 208, 209, 210, 212, 213, 215, 218, 219, 220, 221, 222, 224, 225, 226, 227, 228, 233, 235, 239, 241, 243, 244, 246, 247, 249.

Bitters and Bitter Tonics—10, 12, 15, 29, 35, 44, 60, 81, 85, 86, 109, 114, 134, 147, 152, 154, 169, 183, 201, 202, 209, 212, 215, 217, 223, 230, 237, 242, 249.

Blood Purifiers—See Depuratives.

Carminatives—10, 21, 24, 29, 30, 32, 33, 37, 44, 55, 56, 65, 66, 76, 79, 84, 85, 86, 88, 91, 93, 95, 96, 97, 98, 101, 102, 107, 108, 115, 116, 118, 120, 134, 137, 151, 154, 164, 165, 168, 170, 171, 174, 182, 183, 184, 189, 196, 199, 201, 219, 220, 230, 231, 235, 241, 248.

Cathartics—See Purgatives.

Cholagogues—19, 52, 62, 63, 81, 89, 122, 142, 156, 166, 169, 180, 189, 217, 218, 224.

Collyriums—See Eye Drops, Eye Lotions etc.

Cough Remedies—See Pectorals.

Demulcents—2, 3, 4, 11, 13, 19, 26, 34, 41, 42, 46, 65, 74, 81, 82, 84, 85, 86, 87, 89, 96, 104, 115, 122, 125, 126, 127, 131, 132, 133, 146, 147, 148, 154, 163, 166, 170, 171, 173, 174, 176, 179, 185, 200, 207, 210, 214, 216, 233, 235, 242, 243.

Dentifrices—33, 54, 83, 226.

Deobstruents—37, 39, 40, 50, 61, 65, 106, 112, 113, 137, 138, 140, 152, 159, 165, 180, 184, 192, 199, 201, 202, 223, 224, 238, 245.

Depuratives—9, 19, 42, 49, 50, 51, 52, 58, 72, 75, 77, 96, 97, 109, 132, 145, 205, 214, 223, 249.

Diaphoretics—8, 11, 17, 21, 30, 47, 50, 51, 52, 53, 55, 60, 62, 63, 65, 67, 84, 90, 92, 100, 116, 117, 120, 132, 137, 151,

153, 169, 170, 171, 174, 181, 186, 187, 192, 193, 195, 199, 207, 208, 211, 230, 232, 237, 242, 243, 247.

Discutients—21, 38, 44, 59, 64, 79, 80, 92, 93, 101, 102, 106, 111, 112, 118, 128, 141, 151, 152, 157, 160, 164, 167, 174, 182, 184, 199, 202, 203, 220, 222, 235, 241, 244, 247.

Diuretics—3, 7, 8, 9, 10, 17, 19, 20, 21, 22, 26, 27, 32, 34, 35, 41, 42, 44, 45, 47, 50, 58, 62, 63, 64, 65, 67, 70, 72, 74, 75, 77, 82, 83, 84, 88, 91, 92, 93, 96, 98, 99, 100, 104, 105, 107, 109, 111, 113, 116, 121, 132, 133, 137, 140, 145, 146, 147, 150, 152, 154, 160, 161, 163, 165, 166, 168, 169, 170, 171, 176, 179, 180, 183, 184, 185, 186, 190, 191, 195, 196, 201, 202, 205, 207, 209, 210, 211, 212, 219, 223, 227, 235, 238, 239, 241, 243, 244, 245, 247, 248.

Embrocations—See Liniments.

Emetics—2, 6, 7, 9, 10, 14, 15, 17, 34, 44, 48, 61, 62, 63, 65, 74, 82, 90, 92, 106, 112, 143, 147, 148, 151, 155, 158, 159, 160, 177, 195, 198, 200, 203, 234, 237, 238, 243.

Emmenagogues—1, 10, 18, 20, 21, 23, 25, 30, 36, 37, 38, 40, 44, 46, 53, 59, 65, 66, 67, 84, 91, 93, 100, 105, 107, 111, 116, 126, 127, 137, 140, 144, 151, 152, 154, 159, 161, 165, 168, 176, 177, 183, 184, 194, 195, 196, 197, 198, 201, 207, 235, 236, 237, 238, 239, 244, 246, 248.

Emollients—3, 4, 7, 9, 11, 18, 20, 27, 44, 59, 71, 73, 74, 88, 109, 122, 130, 133, 136, 153, 157, 162, 171, 183, 185, 190, 191, 193, 198, 202, 207, 214, 222, 235, 236, 243, 247.

Expectorants—3, 4, 6, 7, 9, 10, 12, 19, 20, 21, 34, 40, 41, 44, 46, 47, 48, 55, 56, 62, 63, 68, 72, 84, 96, 104, 111, 112, 113, 116, 120, 125, 127, 134, 137, 147, 148, 154, 156, 166, 169, 170, 171, 195, 199, 203, 205, 211, 212, 221, 237, 238, 244, 249.

Eye Drops, Eye Lotions etc.—2, 4, 6, 9, 11, 13, 18, 19, 20, 33, 34, 53, 60, 61, 82, 88, 95, 109, 110, 111, 113, 132, 137, 139, 143, 147, 154, 167, 170, 179, 182, 186, 193, 194, 197, 198, 200, 210, 212, 216, 218, 220, 222, 225, 226, 242, 245, 248, 249.

Febrifuges—6, 8, 11, 12, 13, 15, 16, 17, 21, 29, 30, 37, 44, 45, 46, 47, 48, 59, 62, 63, 66, 71, 72, 74, 75, 80, 81, 89, 90, 94, 96, 105, 109, 111, 114, 127, 133, 134, 141, 151, 154, 156, 159, 160, 162, 164, 169, 170, 171, 177, 179, 180, 188,

189, 194, 196, 197, 198, 209, 210, 212, 213, 215, 217, 220, 223, 224, 230, 234, 241, 242, 243, 244, 245, 249.

Galactagogues—5, 25, 26, 41, 66, 93, 100, 111, 121, 126, 127, 141, 145, 158, 168, 177, 180, 198, 207, 235.

Gargles—3, 4, 8, 52, 54, 56, 70, 83, 84, 87, 88, 103, 108, 109, 114, 118, 119, 120, 134, 137, 141, 142, 143, 144, 148, 150, 156, 160, 163, 170, 176, 182, 184, 194, 211, 213, 218, 219, 226, 233.

Gout (Remedies)—See Rheumatism (Remedies).

Hair Tonics—2, 6, 8, 31, 44, 64, 83, 92, 101, 102, 106, 144, 165, 184, 194, 205, 207, 222, 225, 232, 234, 235, 244.

Irritants—See Rubefacients.

Lactagogues—See Galactagogues.

Liniments—10, 19, 20, 21, 30, 33, 44, 45, 59, 61, 67, 76, 80, 89, 92, 101, 102, 112, 122, 125, 127, 129, 136, 137, 138, 141, 143, 146, 153, 154, 158, 160, 186, 189, 220, 225, 230, 234, 249.

Lithontriptics, Lithotriptics and Lithotritics—See Antilithics.

Lumbago (Remedies)—See Rheumatism (Remedies).

Mouth Washes—See Gargles.

Narcotics—7, 28, 34, 64, 91, 101, 102, 175, 245.

Pectorals—4, 5, 7, 9, 10, 12, 21, 24, 34, 40, 45, 46, 47, 48, 54, 62, 63, 87, 91, 96, 106, 108, 120, 125, 127, 138, 139, 145, 146, 150, 160, 165, 166, 170, 171, 173, 177, 179, 182, 183, 184, 185, 188, 189, 195, 198, 206, 207, 212, 214, 224, 225, 233, 235, 237, 238, 239, 245, 248, 249.

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APPENDIX II

A Glossary of some Technical Terms used in the Text.

Abortifacient	... An agent that promotes abortion.
Acne	... A pimple-like eruption of the sebaceous glands of the skin, with accumulation of yellow secretion and black overgrowth of the horny layer of the skin.
After-pains	... Painful contraction of the womb after child-birth.
Alopecia	... A disease of the scalp resulting in complete or partial baldness.
Alterative	... A drug which corrects disordered processes of nutrition and restores the normal function of an organ or of the system.
Amenorrhoea	... Abnormal suppression of menses.
Anaemia	... A deficiency of blood or of red blood-cells or of the red-colouring matter of the blood.
Anasarca	... Dropsy.
Angina pectoris	... A disease of the heart marked by severe constricting pains in the chest.
Anodyne	... A drug that relieves pain.
Antacid	... A drug which neutralises the acidity of the gastric juice.
Anthelmintic	... A drug that kills intestinal worms.
Antihydrotic	... A drug which checks sweating.
Antilithic	... A drug which counteracts the development of stone or calculus.
Antiperiodic	... A drug that cures periodic attacks.
Antiphlogistic	... A drug which counteracts inflammation.
Antipyretic	... A drug which reduces fever.
Antiscorbutic	... A drug which prevents or cures scurvy.

Antispasmodic ... A drug which counteracts spasmodic disorders.

Aperient ... A mild purgative.

Aphrodisiac ... A drug which promotes sexual desire.

Aphthae ... Minute white ulcers on the tongue and in the mouth.

Apoplexy ... Sudden loss of consciousness with some paralysis; stroke.

Ardor urine ... A burning sensation on urinating.

Aromatic ... A drug which is fragrant, spicy and mildly stimulant.

Ascaris ... Intestinal parasitic roundworms.

Ascites ... Abdominal dropsy.

Asthma ... A chronic disorder of the bronchial tubes.

Astringent ... A drug which arrests secretion or bleeding.

Atony ... Lack of tension or muscular power.

Attenuent ... An agent that dilutes fluids.

Bechic ... A remedy for cough.

Bedsores ... Ulceration on any part of the body exposed to pressure of bed-ridden patient.

Beriberi ... A deficiency disease caused by lack of vitamins especially B^1.

Blenorrhoea ... Excessive mucous discharge, particularly from the uro-genital organs.

Bright's disease ... An acute or chronic disease of the kidneys.

Bronchitis ... An inflammation of the air passages.

Bronchorrhoea ... Excessive discharge from the bronchial mucous membrane.

Calculus ... A hard and solid concretion formed in the body, especially in the urinary organs; it may be sand, gravel or stone, according to size.

Cancer ... Any malignant growth.

Carbuncle ... An acute suppurative inflammation of the skin and tissues under the skin, rapidly spreading around the original point of infection.

Caries ... Decay of teeth.

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